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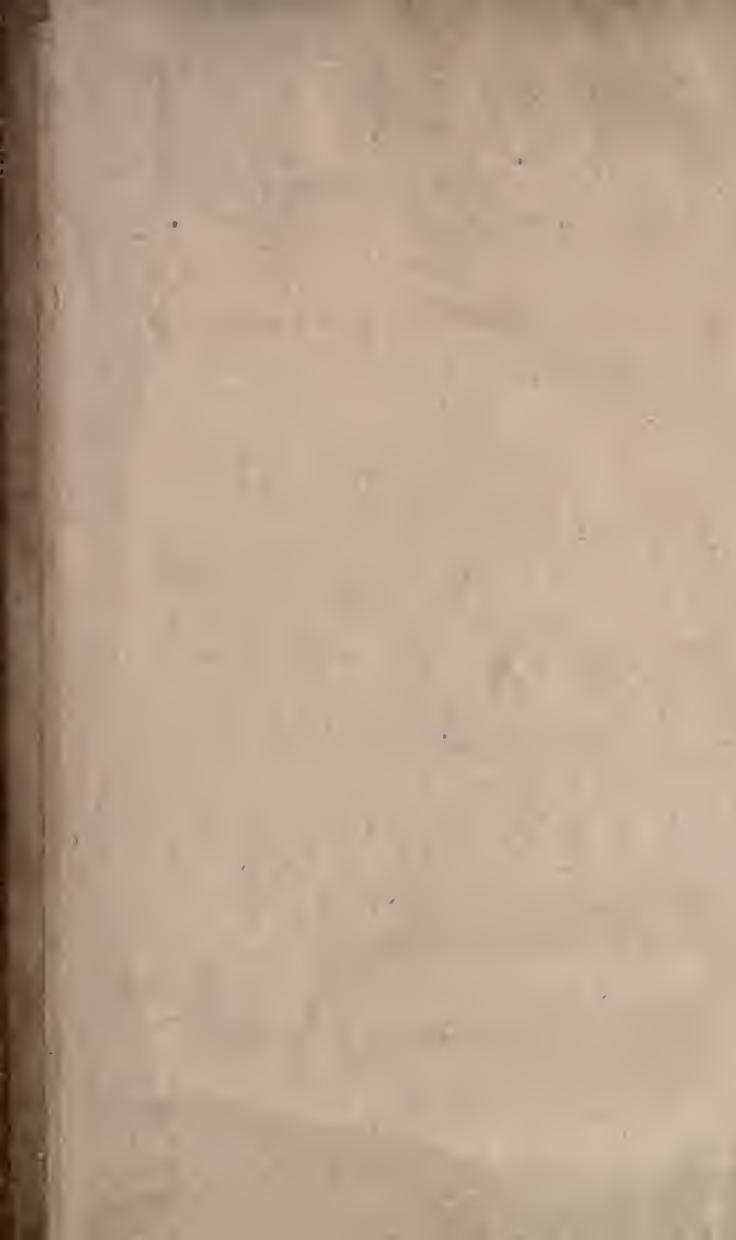
On Design in Gardening.
On the Culture of Peach-trees.

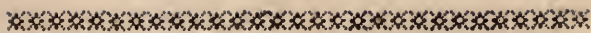
1. H. L. —

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Handwritten text, likely a signature or title, written in dark ink on aged, stained paper. The text is partially obscured by a large, dark, irregular stain or smudge.







A N
E S S A Y
O N
D E S I G N
I N
G A R D E N I N G.



E A S Y

D E S I G N

G A R D E N I N G

The first part of the book is devoted to a description of the various kinds of plants which are suitable for the garden, and to a description of the various kinds of soil which are suitable for the garden.

The second part of the book is devoted to a description of the various kinds of plants which are suitable for the garden, and to a description of the various kinds of soil which are suitable for the garden.

I N D E X

The third part of the book is devoted to a description of the various kinds of plants which are suitable for the garden, and to a description of the various kinds of soil which are suitable for the garden.

A N
E S S A Y
O N
D E S I G N
I N
G A R D E N I N G.

Ego cředo fore, qui labori meo nomen in-
ertię imponant; certe quibus maxima industria
videtur, salutare plebem, et conviviis gratiam
quærere. SALLUST.

And sure there seem, of human kind,
Some born to shun the solemn strife;
Some for amusive tasks design'd,
To soothe the certain ills of life;
Grace its lone vales with many a budding rose,
New founts of bliss disclose,
Call forth refreshing shades, and decorate repose.
SHENSTONE'S *Rural Elegance*.

L O N D O N :

Printed for BENJAMIN WHITE, at Horace's Head
in Fleet-street.

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THE NEW YORK

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ASTOR LENOX TILDEN FOUNDATION

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ESSAY, &c.

DESIGN is an extensive
Province,—GARDENING
one of its *Districts*—a
District of so various an
appearance, as hardly to be known for
the same country in different periods
of time. Wherein consists its great-
est

est beauty has not yet been agreed upon. Nor can it be wonder'd at, when some have pretended, that the very idea of *beauty* itself is idle and visionary. A notion, like this, may serve admirably well for soothing the disappointment of some splenetic artist; may afford an excellent topic of dispute for those, who love *argument* better than *reason*: but it is the offspring of vulgar error—a chimæra of the superficial observer. Taste is by no means arbitrary, however unintelligible to grosser apprehensions; however difficult to be marked by the accurate lines of definition. D'ALEMBERT gives the best account of it, when he says, *The truth is, that the source of our pleasures, and of*

I

our

our disgusts lies solely and entirely within ourselves; so that, if we reflect with attention upon our mental frame, we shall find there general and invariable rules of taste *. Or in other words, 'The approbation of attentive minds is the truest criterion of beauty.' Though this description should be charged with uncertainty, we shall possibly feel within ourselves stronger motives for confirming the reality of taste, than the power of language can explain

* En effet la source de notre plaisir et de notre ennui est uniquement et entièrement en nous; nous trouverons donc au-dedans de nous-mêmes, en y portant une vue attentive, des regles generales et invariables de goût.

to us : we shall there discover in particular its analogy to *Morals*. Fashion, custom, many adventitious circumstances may prevail upon mankind to leave virtue for vice, elegance for barbarism ; but no perversion of *natural* principles can ever excite those pleasing emotions in the *heart*, which the contemplation of elegance and virtue produces.

If then merit of design is not absolutely vague and indeterminate, neither is it incapable of being regulated within the sphere of gardening. ——— By gardening, I mean that sort of it more peculiarly denoted by the epithet *Picturesque* :
and

and this I thought necessary to premise, because of the more general import, not only of the word *Garden*, but of its synonymous term too in different languages. This combination of ideas, (which it originally included and still retains) may perhaps be accounted for from the practice of the EAST, where the soil and climate brought forth *herbs* and *fruit-trees* without cultivation, and in their natural luxuriance: there the admission of *both* was no disadvantage to the *elegance* of gardens: every pleasure or convenience, which the whole vegetable creation could supply, this *Eastern* model comprehended. But whether *internal disposition* was much consulted

sulted in these *Asiatic Paradises*, is a matter of conjecture. They probably gain'd their first introduction among the various improvements of SEMIRAMIS. With *her* the idea of forming them seems to have been a favourite passion, for which she delay'd expeditions, and employ'd the labour of armies in decorating remotest corners of her empire: and though the plans themselves are nowhere exactly delineated, yet admirable must have been her genius in the art, if we are allow'd to judge by the *romantic* * situations on which it was exercis'd.

* See DIODORUS SICULUS, L. 2. Sec. 10.

Under the dominion of the MEDES AND PERSIANS, paradises were frequently enlarg'd into the similitude of *forests*, plentifully stockt with wild-beasts, and dedicated to the diversion of hunting: and QUINTUS CURTIUS informs us, that, (in the time of ALEXANDER) to be possess'd of one of *these* was the greatest sign of opulence in the *Persian* nobility. Thus the uses of paradises were accommodated to the different humours of proprietors, but their *natural* allurements never entirely unattended to. They * were chosen for the largeness of their groves, and

* *Spatiosas ad hoc eligunt Sylvas, crebris perennium aquarum fontibus amœnas. Q. C. L. 8. ca. 1.*

the frequency of their fountains and rivulets : that of CYRUS the younger at CALÆNÆ, was divided by the river MÆANDER, whose springs issued from the palace : in the royal one at PASARGADÆ was the sepulchre of CYRUS THE GREAT——
a turret embosom'd in variety of shades, where the woodland abounded with streams, and richest verdure invests the meadows *.

Natural design did not indeed equally prevail throughout *all* the regions of the EAST. We have a most convincing instance to the con-

* ARRIA, L. 6. ca. 29.

trary in those famous *Penfile* * *Gardens* of BABYLON. But very remarkable is it, that even these should owe their origin to the truest sensibility of the wild beauties of nature. This surprizing and laborious experiment was a strain of complaisance in King NEBUCHAD-NEZZAR to his *Median* Queen, who could never be reconciled to the flat naked appearance of the Province of BABYLON, but frequently regretted each rising hill, and scatter'd forest she had formerly delighted in, with all the charms they had presented to her youthful ima-

* Described in DIODORUS SICULUS, STRABO, QUINTUS CURTIUS, ROLLIN's, and *Universal Ancient Histories*.

gination: the King, who thought nothing impossible for his power to execute, nothing to be unattempted that might gratify his beloved comfort, determined to raise *woods* and *terraces*, even within the walls of the city, equal to those, by which her *native* country was diversified:—unfortunately he did not understand, that the secret power of beauty neither belonged to the *one*, nor the *other*, but to the *disposing* hand of the CREATOR. However, the work itself was sufficient to excite admiration, and consequently to mislead the judgment of mankind. Regularity and magnificence could never have been so mis-applied thro' subsequent ages, but for some such

fallacious example. Splendour intoxicates the mind, and often robs us of our more agreeable sensations: when once the dazzling glare of it possesses the fancy, every *soft* and *delicate* impression loses its effect.

LORD BACON observes, * *that when ages grow to civility and elegance, men come to build stately, sooner than to garden finely; as if gardening were the greater perfection;—alluding to the progress of these sister arts both in the Grecian and Roman commonwealths. For Architecture was a favourite amusement of GREECE; Gardening almost*

* *Essay on Gardens.*

totally neglected : one should have thought, the *Vale of Tempe* might alone have inspired rural enthusiasm. *Roman* gardens are hardly mention'd before the time of *LUCULLUS* ; from which æra, pleasant situations seem to have been chosen for villas, and the adjacent territories expensively ornamented. It cannot well be suppos'd, that the *Romans* were incapable of distinguishing real beauty in a landscape ; but mistaken notions of *power* and *grandeur* perpetually intervened, and misguided the style of their improvements. A superlative excellence was imagined to consist in surmounting the greatest difficulties, and inverting the order

order of nature * : indeed from their *artificial projections* into the sea †, and other works of equal extravagance, we might fairly con-

* Mons erat hic, ubi plana vides : hac lustra fuerunt,

Quæ nunc tecta subis : ubi nunc nemora ardua cernis,

Hic neque terra fuit : domuit possessor ; et illum

Formantum rupes, expugnantemq; secuta

Gaudet humus : nunc cerne jugum discentia faxa,

Intrantesq; domos, jussumq; recedere montem,

STATIUS, *Sylvæ*, L. 2.

† Contracta Pisces æquora sentiunt

Jactis in altum molibus.——HOR.

Expelluntur aquæ faxis ; mare nascitur arvis ;

Et permutatâ rerum statione rebellant.—P. AR.

clude

clude *vanity of wealth* to have been their fundamental principle of design. No wonder, then that the *Roman manner* soon degenerated into more puerile absurdities. PLINY's description of his own villa exhibits every kind of imitation that could be practis'd on the ductility of evergreens. Further instances of *formality* and *unnatural conceit* seem to have had a later introduction. Pieces of water were permitted to retain their most obvious and most beautiful appearance for succeeding centuries ;—at least I do not recollect any mention of *squaring* ponds, 'till we meet with it in ACHILLES TATIUS * ; but *ingeni-*

* Supposed to have wrote about the year 800.

cus devices were sufficiently multiplied in a subsequent period, such as——gilt eagles with expanded wings seeming to wash themselves——fountains gurgling through the throats of singing-birds in imitation of their voices—and many similar fancies, erroneously ascrib'd to *Dutch* invention *.

The embellishment of gardens, which found its way into this island, unhappily consisted of every inno-

* They may be found in EUSTATHIUS *de Ismenia et Ismenes amoribus*. The author's age (who wrote this very moderate composition in Greek) is uncertain, but lies between 800, and 1100: so that the antiquity of these follies is some centuries standing.

vation

vation upon nature. LORD BACON, was the first who attempted to reform our method: he shews us at once both the ridiculous conceits of his coterporaries, and the properest manner of censuring them: *as for the making of knots of figures with divers colour'd earths they be but toys, you may see as good sights many times in tarts. I do not like images cut out in juniper, or other garden stuff, they are for children.* However tainted by prejudice, yet was his *Essay* upon the whole greatly superior to the reigning mode, and probably tended to banish many puerilities, 'till they were re-imported from HOLLAND at the *Revolution*.

Indeed

Indeed were only *classical authorities* consulted, it would hardly be supposed, that any considerable variation in taste ever had prevailed. It was well understood by eminent writers, how much the beauty of allusion depends on its being perfectly natural, and that artificial scenes ill bear a poetical description. Hence those admirable *sketches* of rural delineation so frequent among the GREEKS and LATINS: and we are not to be surprized if fewer *finished pieces* are to be met with in their writings, a *defective* or a *vitiating* national taste being no small impediment for fancy to contend with. Superior genius sometimes
D conquers

conquers the difficulty, and exhibits
such pictures, as these :

——— *Sylvestria templa tenebant
Nympharum, quibus exibant humore fluenta
Lubrica, proluvie largâ lavere humida saxa ;
Humida saxa super viridi stillantia musco :
Et partim plano scatere atq; erumpere campo.*

LUCRETIVS.

——— They dwelt in Sylvan grots
Sacred to nymphs ; — whence gushing fountains
flow'd,

And in full torrent rocky channels wore ;
The channel'd rocks on verdant moss distil :
Some bubbling rise, and burst into the plain.

*Est in secessu longo locus. Insula portum
Efficit objectu laterum ; quibus omnis ab alto
Frangitur, inque sinus solvit sese unda reductos.*

*Hint atq; hinc vastæ rupes ; geminiq; minantur
In cælum scopuli ; quorum sub vertice latè
Æquora tuta silent : tum sylvis scena coruscis
Desuper, horrentiq; atrum nemus imminet umbrâ.*

VIR. ÆN.

The

The place in long recess retired lies.
 An island's closing sides, where broken floods
 Fall to the shelter'd bay, the harbour form.

On either hand vast rocks : two craggy cliffs
 (Twin-giants) tow'r to Heav'n : how safe be-
 neath

Sleeps the still surface ! neither wants the scene
 Or flitting lights on waving woods display'd,
 Or gloom of horror from their darksome brow.

THEOCRITUS's seventh *Idyll* fur-
 nishes another. In our own lan-
 guage we have KALANDER'S AR-
 CADIAN VILLA, particularly de-
 scrib'd ; and *this* was his principle
 of fashioning it, *Art therein would*
needs be delightful by counterfeiting
its enemy error, and making order in
confusion. — Have I quoted that
 “ tedious, lamentable, pedantic, pas-
 toral romance, which the patience

of a young virgin in love cannot now wade through?" *—Such is the character impos'd upon it in the *elegant* style of modern refinement. New and extraordinary assertions are leading steps to *notoriety*; in pursuit of which, literary adventurers not only controvert every received opinion among the *living*, but, with infinite satisfaction to *themselves*, even

——Strike the monuments

Where noble names lie sleeping.

Yet (I believe) many readers of *ARCADIA*, are still weak enough, to be delighted with a work of genius, and subject themselves to the

* *Catalogue of noble Authors* under LORD BROOK.

charge of *worse than girlish* admiration. *Romance* is a flattering representation of human life; where the likeness is preserv'd, though its powers are magnified, and infirmities veiled. We view ourselves in an elevated station; and the prospect must be naturally pleasing: we must love the ingenuity of an author so benevolently employ'd.— Is *Romance* a scene of *Delusion*?— Greater are the requisites to maintain it in its purity. The *Persons*, the *Incidents*, the *Language* itself should combine to waft us with ease to the region of enchantment: we should find nothing there, that may render our excursion disagreeable, or bear too strong a resemblance

blance to the more beaten road we
 have departed from. *Conduct* can
 give amiable form to incredible
 fiction, can familiarize our imagina-
 tions with something above mor-
 tality ; but too *shocking*, or too
common - occurrences infallibly re-
 instate us in our humbler condition.
These are the *Characteristicks*, which
 distinguish SIR PHILIP SIDNEY,
 from the modern *marvellous-story-*
teller ; which create that essential
 difference between amusive pastime
 among the *Shepherds* of ARCADIA,
 and disgusting prodigies in the *Pri-*
son of OTRANTO.—MILTON, as
 well as SIDNEY, liv'd at a time
 when rural graces were but little
 understood ; yet *his* model of EDEN
 remains

remains unimpeachable. CLAREMONT could not be freed from the fetters of regularity, when celebrated by GARTH; nevertheless regularity is conceal'd without violating truth in the description *. And, as to the Poets of the present age, the influence of improved taste manifestly shews itself in their landscapes.

* 'Tis he can paint in verse those rising hills,
 Their gentle vallies, and their silver rills;
 Close groves, and opening glades with verdure
 spread;
 Flowers sighing sweets, and shrubs that balm
 bleed:
 With gay variety the prospect crown'd,
 And all the bright horizon smiling round.

GARTH's *Claremont*.

To

To return to *those* who wrote professedly on the subject of gardening—SIR WILLIAM TEMPLE was so strongly bigotted to establish'd fashion, that he disapproves of all deviation from it, though thoroughly sensible of a superior beauty: * *What I have said of the best forms of gardens is only of such as are in some sort regular; for there may be other forms wholly irregular, that may (for ought I know) have more beauty than any of the others; but they must owe it to some extraordinary dispositions of nature in the seat, or some great race of fancy or judgment in the contrivance, which*

* *Essay on the gardens of Epicurus.*

may reduce many disagreeing parts into some figure, which shall yet upon the whole be very agreeable. Something of this I have seen in some places, but heard more of it from others; who have lived much among the Chineses. But I should hardly advise any of these attempts in the figures of gardens among us; they are adventures of too hard atchievement for common hands; and though there may be more honour if they succeed well, yet there is more dishonour if they fail, and 'tis twenty to one they will; whereas in regular figures 'tis hard to make any great and remarkable faults.—Very hard indeed! for a regular figure is fault enough of itself to eclipse all other

absurdities. Little did SIR WILLIAM TEMPLE imagine, that in about half a century the CHINESE would become the fashionable taste of his country ; or that so many adventurers in it would do great justice to his *observation*, and prove by their works how difficult it is to succeed in the undertaking. The CHINESE manner (whether real or fictitious) has of late years been presented to our view clearly and comprehensively* : but is it possible to convey any accurate idea of the English imitations of it ? In this country the spirit of liberty extends itself to

* In CHAMBERS'S *Chinese Designs* ; the passage is nearly transcribed into the *Elements of Criticism*.

the very fancies of individuals : independency has been as strongly asserted in matters of taste, as in religion and government : it has produced more motley appearances, than perhaps a whole series of ages can parallel. Yet to this whimsical exercise of caprice the modern improvements in gardening may chiefly be attributed. In ADDISON'S * time FRANCE and ITALY far excelled us in artificial rudenesses : and whence can proceed our *present* superiority, but from the *scope of experiment* ? Though numberless absurd plans have been actually carried into execution, they have not prevented our profiting by good ones : for, how-

* See SPECTATOR No. 414.

ever erroneous in their designs, the public are much less mistaken in their approbation of what is beautiful; let various specimens offer themselves to view, the difference of choice will seldom be material. Thus *observation* has been the guide of ENGLISH gardeners—and indeed the only one they could follow. The hints in POPE's epistle are hardly sufficient for directions; but in vain might we search for better before the late publication of SHENSTONE'S UNCONNECTED THOUGHTS ON GARDENING. These instructions (as far as they extend) appear to me unexceptionable; the *following* remarks will by no means interfere

interfere with them, but are intended merely as additional.

The elegance and propriety of rural designs seems greatly to depend on a nice distinction between *contrast* and *incongruity*.—To define the exact limits of each in every instance is a task next to impossible; but the judicious eye will immediately discover the difference in objects presented before it. In general we may observe, that confusion arises from crowding together into *one* scene, what would be infinitely pleasing in *two* successively. At PAINE'S HILL the banks of the lake are admirably *contrasted* by the wild rusticity on the other side of the

the

the arch: but I could wish the *separation* more perfect: as far as the scenes are *open* to each other, the effect of *surprize* is diminished;— and (I think) *propriety* requires they should be absolutely *distinct*.

The *species* of design should generally conform to the nature of the place:—but even *this* rule may sometimes be neglected without any *visible incongruity*. For example:—it may be possible to contrive an artificial river even near the summit of a hill, so as to bear the similitude of an *irriguous valley*—provided that all surrounding objects perfectly correspond to it, and every appearance of declivity remains *totally excluded*,

cluded. Such deviations from the guidance of nature are suggested by the same cause, as were the *Pensile Gardens* of BABYLON — nothing of the sort being otherwise to be obtained: but the *objection* to them is by no means parallel; for *perfect deceit equals reality*.

Contrast will often call forth beauties, which one should hardly believe the situation could afford. —

One of the properest places for attending to it is the internal arrangement of a wood. By the various windings of the walks, the closing and opening of thickets; exhibiting the stateliest trees, and sudden transitions from one degree of shade to another

another—more awful ideas might be imprest on the imagination, than *Day's Garish Eye* can supply us with. A passage in *PARADISE REGAIN'D* will exemplify my meaning :

*Only in a bottom saw a pleasant grove,
With chaunt of tuneful birds resounding loud;
Thither he bent his way, determin'd there
To rest at noon, and enter'd soon the shade
High-rooft, and walks beneath, and alleys brown,
That open'd in the midst a woody scene :
Nature's own work it seem'd (nature taught art)
And to a superstitious eye the haunt
Of wood-geds, and wood-nymphs.—*

Book 2. ver. 289.

*These * sacred sylvan scenes* were places of worship in the reign of druidical priesthood ; and by no improbable supposition *such * as of old*

* LORD SHAFTESBURY'S *Moralists*.

gave rise to temples, and favoured the religion of the antient world.

Contrast of *light* and *shade* has a powerful effect in lengthening or contracting the apparent extension of vistas.—Is the *terminating object* too near? Then at some distance, on the hither side of it, the stronger portion of light should be admitted: the distinctness of the intermediate parts, and its own comparative degree of shade, will make the termination remoter. Is it too remote already? Let it be proportionably illuminated. For this latter advice there seems indeed but little occasion; *whitening objects* being a common practice—rather too frequently

F

used

used where the contrary method seems wanting. I would not here be understood to suppose, that some kind of *edifice* is necessary for the termination of a vista; *natural* objects are often preferable, especially in a short one: perhaps the most pleasing terminations are formed by the united works of art and nature. A vista should certainly be concluded with something more than the meer heavens; and I know 'tis a maxim with some, that no portion of *glade* can be admitted with propriety: but this maxim appears much more calculated to restrain genius, than correct the judgment; wildly broken, or closely over-arched, the glade may create a variety,

not

not otherwise so easily attainable. What I have already said of vistas, plainly relates to those, the *sides* of which are for some considerable space subjected to view: MR. SOUTHCOTE taught us to form others, through the branches of a *single* tree only; and shew'd us how the opening might be made natural and easy, and (as it were) perfectly accidental. SHENSTONE, and LORD LYTTELTON, took the hint, and improved upon it; but the experiment in unskilful hands generally does more prejudice to the beauty of trees, than the *formal* vista can recompence.

The greatest fault of modern
 F 2 planners

planners is their injudicious application of *Fir-trees*.—A quick growth and perpetual verdure have been the temptations for introducing them ; but these advantages are very insufficient to justify the prevailing mode, which gives them an universal estimation. Trees of conic figure are by nature unfociable—not to be allow'd a place amid the luxuriant heads of oaks, or other noblest progeny of the forest ; though they may sometimes join with the ash and the poplar. They are beautiful as single objects—ill-suited to an extent of wood-land——serviceable however to particular swells of ground, if the size of the plantation be proportionable, and not (as

SHENSTONE

SHENSTONE observes, and our artists execute) like coronets on an elephant's back. They may be loosely scatter'd on a wild heath: their *deep shades* may in many places be happily disposed: but when I see them in circular clumps choking up a meadow, or preposterously converted into shrubs under the branches of a forest-tree, they excite no other emotion, than contempt for the planter, — who perhaps may have acquired a singular degree of merit in smoothing lawns, and humouring every extension or inequality of surface. Indeed *Practice* is a necessary ingredient for modelling the surface of ground; or at least for an adequate *execution*. 'The difficulty' attending

tending this mechanical part of gardening has induced many proprietors to commit the whole of it to artists by profession, whose contracted geniuses (without the least *capability* of enlargement) have stamped an unmeaning sameness upon half the principal seats in the kingdom.

Uniting lawns is the chief purpose of *sunk fences* : ——— wherefore they should be *perfectly* concealed themselves, that we may not discover insufficiency in the execution : neither should unnatural swells be made use of in order to conceal them ; for thus the very *purpose* is destroyed.

Shrubberies and *beds of flowers*
demand

demand limitation : — immoderately extended, they mark the triumph of luxury over elegance. The apparent waste * of ground displeases us ; and the plants themselves are too minute to admit of any considerable space being exclusively allotted them. [I say this, in regard to *beauty of disposition*, and mean not to interfere with the *vanity of collections*.] On spots, that have nothing observable in themselves, such profusion of ornament is generally bestowed ; yet, however fashionably patronized, gaudy colouring is a poor

* —————tum violaria, et

Myrtus, et omnis copia narium,

Spargent olivetis odorem

Fertilibus domino priori,——HOR.

com-

compensation for natural deficiencies: with much more justice has POPE given the preference to that man's taste,

*Whose ample lawns are not ashamed to feed
The milky heifer, and deserving steed.*

An opinion prevails that * *regularity is required in that part of a garden, which joins the dwelling-house*. The author, who asserts this maxim, shews at the same time the absurdity of extending it: but I rather take the rule itself to be a relict of the prejudice of habit. Hiding a good front—obstructing a prospect from the windows—rendering a mansion damp and unwholesome by

* *Elements of Criticism, Chap. 24.*

too much shelter—are inconveniences to be avoided: but I see no connection between these cautions and positive regularity: there are indeed reasons for excluding it: a degree of wildness in the garden contrasts the symmetry of the building; and the generality of edifices appear to greatest advantage.

Bosom'd high in tufted trees.

Turning *woods* into *groves* gives an air of freedom, and introduces a variety of objects. To what extent the practice is adviseable must be determined by the situation, and by the kind of scene properest to be formed: for, though a partial opening in the front of a wood (unless

contrast forbids it) generally pleases us; yet a total destruction of thicket is one of the greatest impediments to design. The age of the trees is another circumstance to be attended to: beeches in particular should never be cleared of underwood, 'till their size is considerable; they only look like the approach to a *witch-house*, whose inhabitants had encouraged a *nursery of broomsticks*.

Fashion's dictates have subjected the *form* of planting to frequent variation: avenues, quincunxes, clumps, successively had the preference; *dotting* (as they term it) is the present method, and the least exceptionable of any. But a field for the exercise of
genius.

genius should never be limited by fashion : the CHINESE are in this respect (according to SIR WILLIAM TEMPLE) particularly excellent : *their greatest reach of imagination is employed in contriving figures, where the beauty shall be great and strike the eye, but without any order or disposition of parts, that shall be commonly or easily observed.*

Standing pools give offence to LORD BACON :—I have no partiality for *the green mantle* they are sometimes covered with ; but, without any extraordinary clearness, properly placed, their effect may be admirable. GASPER POUSSIN's landscapes prove the assertion. Ponds may be likewise *strung*

together, so as to gain a river-like appearance—or at least that of a considerable lake. This junction of ponds is surprizingly executed at HAGLEY: and, though an equal deception may not always be practicable, yet I think the experiment could not absolutely fail—but in the hands of a mechanical artist, who would make their broad naked heads the principal objects in view.

An edifice may be strongly characterised by correspondent *accompaniments*: the difficulty lies in distinguishing where they are applicable. For instance—in the *horrid* landscapes of the CHINESES desolation should be *total*.—But *ruins* are suffered

ferred to exist in the regions of *neatness*——not that this circumstance alone is absolutely improper: only it should be considered, that in such situations *conversion* of character is visible; consequently let the exhibition of ruin (as at * WOOBURN-FARM) be extended no further than the pile.

'Tis a common case with *garden-buildings*, to be strangely incoherent in themselves—unconnected with the places they occupy: such are root-houses in rosaries—hermitages richly ornamented—rustic seats marked with a *formal vulgarity* by way of

* Late Mr. SOUTHCOTE's.

rudeness. As to pillars and obelisks, they are generally erected to vanity. Had obelisks never stood upon classic ground, one should be puzzled to account for their reception: other pillars may have greater beauty in themselves; yet I cannot recommend the admission of either among rural objects, unless back'd by rising wood, or in some small area surrounded by thickets.

The use of statues is another dangerous attempt in gardening—not however impossible to be practised with success. How peculiarly happy is the position of the *River-god* at STOURHEAD! how prettily group'd are the *Sylvan Deities* near the temple

ple of PAN on ENFIELD-CHACE!
 I remember a figure at HAGLEY
 which one could fancy to be darting
 cross an alley of a grove: the noble
 proprietor has since remov'd it——
 perhaps as bordering upon puerile
 conceit——but I must confess my-
 self much taken with the thought,
 and only wished the *pedestal* had been
 concealed.

There is an art in the manage-
 ment of grounds, little understood,
 and possibly the most difficult to be
 accomplished: 'tis analogous to what
 is called *keeping under* in painting:
 by some parts being seemingly ne-
 glected, the succeeding are more
 strikingly beautiful. The effect of
 this

this management is very apparent at the LEASOWES. I know not whether the same thing is intended at PAINE'S-HILL, when you are conducted to a view of the lake through specimens of *French* and *Italian* gardening: but *these* are too much labour'd to give an equal respite to the attention with natural negligences.

From a general view of our present gardens in populous districts, a stranger might imagine they were calculated for a race of LILLIPUTIANS. Are their *shade*, their *ponds*, or their *islands* proportionable to common mortals? Their winding walks—such as no human foot-step (except a reeling drunkard's) could

5

have

have traced. Yet these, in the eyes of the proprietors, are perfect models of CHINESE; though the only part that can be called so, is their ridiculous style of architecture in rails and temples.

Whatever rules may be prescribed, after all the best instructor is *example*; the force of which first rectified our taste, and must continue to improve it. Yet we should be aware, not to confound the dispositions of nature with artificial contrivances. I know places exceeding worthy of admiration without the least pretence to genius or judgment in their design—they are like some charming story indifferently related

—the *tale* and the *scene* have intrinsic powers of magic, and neither barbarous language, nor barbarous artists can easily dissolve the enchantment. However, juster models of *artificial* disposition are by no means wanting—you will find them within the woods of STOKES *, at WROXTON, and the *valley* of BADMINTON: OATLANDS, WINDSOR-PARK and WENTWORTH-CASTLE will shew you, how rivers can be imitated: PERESFIELD may bring to your imagination some romantic paradise of SEMIRAMIS, PAINE'S-HILL has every mark of *creative genius*, and HAGLEY of *correctest fancy*; but the most inti-

* LORD BOTTETOURT'S near BRISTOL.

mate *alliance with nature* was formed by SHENSTONE. ——— Not that I would recommend even the works of the *last* for servile imitation.—how insipid are the copiers of SHAKESPEARE! whoever would rival his excellence, must study in the same school, as did SHAKESPEARE himself. NATURE'S favourite haunts are the *school* of gardening—she appears in sublimest *rudeness* on the forest of MACCLESFIELD, and the WELCH mountains ——— her milder *train of graces* disperse themselves along the banks of THAMES ——— her *majestic retirements* are situated on the streams of DOVE and DERWENT, in the vale of HACKNESS, and the groves of EASTWELL ——— she assumes on

RICHMOND-BROW a *gayer* and a *softer* dignity, making every sprightly work of art serve for her embellishment.

In apology for the subject, I would remark with ADDISON, *how very few have a relish of any pleasures that are not criminal.*—Gardening has a more positive merit—

—Hence the poor are cloath'd, the hungry fed ;
 Health to himself, and to his children bread
 The labourer bears. POPE.

Is the study productive of indolence?—let us view its ablest professors. The spirit, which animated HAGLEY, glows with equal lustre through the darker shades of historical obscurity. And was it not after

his long attention to rural elegance, that our glories bursting forth into the world render'd the name of PITT great among the nations? Neither are those without excuse, who desert the busier scenes of life for the sake of amusing retirement: indeed the opposite practice is much more prejudicial to the community—

*Meantime by pleasure's sophistry allur'd,
From the bright sun and living breeze ye stray;
And deep in London's gloomy haunts immur'd,
Brood o'er your fortune's, freedom's, health's
decay.*

*O blind of choice, and to yourselves untrue!
The young grove shoots, their bloom the fields
renew,*

*The mansion asks its Lord, the swains their friend;
While he doth riot's orgies haply share,*

Or

*Or tempt the gamester's dark destroying snare,
Or at some courtly shrine with slavish incense bend.*

AKENSIDE's *Militia Ode.*

Should any one reply——that these are only the *vices*, and that the *pursuits* of public life are necessary to the welfare of the state; that they extend society and commerce; that they lead to riches, honour, and advancement—*cela est bien dit (répondroit CANDIDE) mais il faut cultiver nôtre Jardin.*

F I N I S.

A

TREATISE

UPON THE

CULTURE

OF

PEACH TREES.

TRANSLATED FROM THE FRENCH;

L O N D O N, Printed :

And sold by J. DODSLEY in Pall-mall, S.
BAKER and G. LEIGH in York-street, Co-
vent-Garden, T. BECKET and P. A. DE
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Seedsman, in Fenchurch-street.

M DCC LXVIII.

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OF THE
CULTURE
OF
PEACH TREES.

CHAP. I.

Of Peach Trees in general.

THE Peach is esteemed one of the most excellent fruits of Europe; but in our climate, the cultivating it with success requires more care, and consequently more knowledge than any other sort. It is owing only to the great number of these trees so universally raised, that in a favorable year we have such abundance of this fruit in Paris and its environs; for by the present unskilful method of treating them, their crops are so deficient that an hundred trees do not yield so much fruit as might be produced by twenty under a more judicious
B manage-

themselves.—How few are there who will bestow so much care and trouble !

I speak now with regard to those who plant for profit, and who aim at nothing but producing a great quantity of fruit. Those who raise them only for satisfaction and amusement will be content with seeing their trees well trained, and furnished with a moderate quantity of the best fruit, without envying this great abundance. It is for the latter that I write chiefly ; and to do this with propriety and method, I shall begin with examining the different sorts of Peaches, and mark such as are most to be preferred.

C H A P. II.

Of the different sorts of Peaches, and the choice of them.

OPinions are various concerning the different sorts of Peaches. Mr. De la Quintinie has pretended to distinguish thirty-two, which he names, exclusive of Nectarines and hard Peaches. Others extend them even to forty or fifty ; but these (if I am not much mistaken) often mention the same sort twice ; so that most of them have acquired two or three names. For my own part, I can say nothing precisely on this head, having never taken pains to distinguish the sorts accurately. The principal point

point is to know the best; and we lose very little by being unacquainted with those that are inferior. I confess then, that I do not know above fifteen sorts that are worth attention; and to those we may confine ourselves, for the rest are either very indifferent, or very bad. There are some which (though good) do not bear well, and are not worth the space they occupy; others are very liable to be injured by the gum, or by ants. In short, there are some, which, though they have good qualities, are out of fashion, their long or crooked shape being very unpleasing. Since then it is not more expensive to cultivate the best than the more indifferent ones, the first only deserve our regard; for a good aspect is too valuable to be filled with any but the very capital sorts. If a constant succession of good Peaches can be obtained from the end of July to the middle of October, nothing more need be desired; for, after that time, the fruit ripens but very imperfectly. In short, I cannot come into the opinion of many people, who are covetous of every sort, whether good or bad; especially as it is a fruit that requires great care and pains, and deserves the best situation.

The fifteen sorts which I prefer, form a constant succession, and are undoubtedly the most beautiful, both in colour, shape, and size, of the highest flavour and the best bearers, as is universally acknowledged: What I say in general will suffice, without giving a more par-

ticular character of them; and if those only are approved of, I should advise the following method of disposing them.

If you have room for fifty trees, you will plant

2 Small Mignon	3 Early Violet	3 Bellegard
6 Gros Mignon	3 Bourdin	3 Royale
2 Red Magdalenc	3 Chevreuse	2 Nivette
4 Galande	4 Purple	2 Pavies de Pom-
3 Teton de Venus	3 Persique	pone.
3 Italian Peaches	4 Admirable	

If you have more or less room, you will plant in proportion. In a very small garden, or where you have room only for six trees, I should advise you to chuse the following :

1 Gros Mignon	1 Galande	1 Admirable
1 Early Violet	1 Purple	1 Nivette

I give a place to the Violet, which is not esteemed by many, because it will not acquire its proper flavour nor size in every soil; but when it is in perfection, I place it before all other Peaches, and have found a great many of my opinion.

I have also given the Pavie de Pompone a place in my list, though it is not generally liked, and which, as to flavour, I do not myself rank among the good Peaches, but I mention it for three reasons. First, its prodigious size and beautiful colour make it the greatest ornament of the table: Secondly, it comes in eating

eating after all other Peaches are gone: And thirdly, it may be eaten all the year round as a pickle, and surpasses all others for this purpose. It has for this reason been in great repute within these few years, and is preserved by some in a different manner from the Cucumber.

There is also a dwarf Peach, which is raised in Orleans, and affords great amusement to the curious, as a beautiful object, though otherwise of no value. It is planted in pots or boxes, where it requires no care but that of watering, and grows about as large in the stem as a stock Gillyflower; the fruit sets very well, and it bears sometimes twenty or twenty-five Peaches, of a middling size. The tree is commonly brought to table with the fruit on it, and makes a very striking appearance; but the fruit is insipid.—It seldom ripens well in this climate, but it might possibly succeed better in a more southern one.

Those who inhabit a warmer country may chuse such of the sorts mentioned above, as are most adapted to their climate; for instance, I do not reckon all the hard Peaches of that value here, that they are in Italy and Provence; nor do I esteem many sorts of the late Peaches, which here ripen but very imperfectly, and have very little flavour, though perhaps they might acquire more in these warmer countries. It is therefore the business of the curious to examine what is proper for their own climates: but we ought not to envy any of them in this

respect ; for there is no country where this fruit arrives to such perfection as in this. I have eaten it in all the more southern parts, in the very farthest part of Italy, and in Sicily ; but the heat of the sun is so violent, that our best Peaches do not succeed there.

I think it the best way to plant the fifteen sorts, and the hard Peaches I have mentioned, in the same order as they stand in the list. This is a point I have observed nobody attends to, but I have found it of great use ; for as the Peaches which ripen about the same time, are planted all together, they will be more easily gathered, without going backwards and forwards to seek them in different parts of the wall : or, if they require any defence either from men or beasts, you need only guard one particular part of the wall ; and if there should be occasion in a dry season to water those trees which begin to ripen their fruit, you do not make so many paths, nor trample the earth all along the walls, (for I suppose there are cross walls). In short, as it is as easy to plant them in this regular order as otherwise, I strongly recommend it as the best way.

C H A P. III.

Of the choice of Trees, and the method of raising them in the Nurseries.

There are such a number of nursery gardens in the country round Paris, that it is very easy to find young trees, when the frosts have not destroyed the buds, as it happened in the winters of 1740 and 1742. Vitry, Fontenay aux Roses, & le Pré St. Gervais, are more particularly set apart for this purpose; but as there is the greatest choice at Vitry, they are procured better there than any where else, though I have sometimes had them from Orleans, which have succeeded as well. The chief point in moving a tree, is to take care that it does not lay exposed to the injuries of weather after it is taken out of the ground, that the roots are preserved fresh by the help of good packing and moss, and that it has all the other requisites of a good tree. The place where it is raised is of little consequence, provided there is no remarkable difference between the soil it is taken out of, and that into which it is transplanted; but this must be well attended to.

They are sold, one year with another, if the buds have grown well, for * 5 sols the dwarf, 10 sols the half standard, and 15 sols the stan-

* About $2\frac{1}{2}$ d.— $5\frac{1}{4}$ d.— $7\frac{3}{4}$ d. sterling.

dard ;

dard ; those who pay dearer are always imposed upon, relying too much either on the fancied reputation of the nursery-man, or on the person entrusted to buy them ; for nothing is more erroneous than to imagine that they are better, or that you are more certain of the sorts, because they cost three times as much, which some people will ask for them. In the first instance, it is only necessary to make use of your eyes ; but in the second, I grant you may be deceived. In this trade, as in all degrees of life, there are people whose words are not to be relied on ; but here there is this difference, that they can get but very little by deceiving you : however I allow, that, as there are some sorts, such as the Mignon and Galande, the buds of which take with great difficulty, some nursery-men will not bud so many as they might, and often substitute other sorts that take more freely. But we ought not therefore to look upon them all as cheats : There are in this trade also, some who are jealous of their reputation, and who are sensible that it is their interest to be so. It is our business to be acquainted with these, for which we must depend upon information. The advice I could give upon a matter, the circumstances of which alter every day, would be but a very uncertain help ; and therefore every one must pursue such measures as he shall think best. I shall only observe, that those who are regular in their business, always have a cata-

logue

logue of all the plants in their nurseries, and of those that are budded, entitled thus, "Such a piece of ground bounded in such and such manner, budded with Peaches, contains so many rows of such a sort, and so many of such another;" you examine this catalogue, which there is no reason to suppose fallacious, and following the row, you chuse what you think proper.

If your nursery-man has no catalogue, you will of course suspect him, and go to some other. There is no necessity to make use of these precautions with regard to all the kernelled fruits, which are known by their wood and leaves, so that a nursery-man cannot cheat any one who knows this; but except four or five sorts of Peaches, *viz.* the Great and Small Mignon, the Magdalene, the Violets, and some hard Peaches, all the rest are so much alike, both in wood and leaves, that the nursery-man himself cannot distinguish them, unless he observes that regular method above-mentioned.

Upon all these accounts then, it is very necessary to chuse them yourself, if you are a judge, or that you should be thoroughly satisfied of the skill and honesty of the person you entrust to buy them for you; for if you leave it to your gardener, the bribe of a half sol per tree, which he exacts of the nursery-men as his right, renders him very tractable to whatever they please. This is generally the case;

that, they wear out sooner, and the fruit will never come to perfection. You should take particular care, that the bud has shot straight, and that it does not grow crooked; for from thence it sometimes happens, that notwithstanding all your pains to divide the branches of the tree equally, the side on which the bud twists, will outgrow the other, and this renders the tree very defective.

Be cautious in taking them up, that they dig round the stem at a proper distance, that the roots may not be injured, and reject those which are badly taken up, or are cankered at the root.

As soon as they are taken out of the ground, let them be tied up in bundles, with labels to distinguish the sorts, and a great deal of straw, which you will have ready, to prevent either the strings, or the saddles of the animals which carry them, from rubbing off the bark.—Let the roots at the same time be packed in straw, that the winds and sun may not dry them.—These precautions, though very necessary, are sometimes neglected.

Notwithstanding all these directions, those who have it not in their power to act for themselves, will no doubt find it very difficult to make choice of a person whom they can entrust; but I would advise them to enquire out a good nursery-man, and put it upon his honesty to supply them properly, upon condition that he sends nothing but what will answer in
all

all the particulars I have laid down. Oblige him at the same time to insure all the sorts, and keep back part of the price till you are assured of it. The nursery-man saving by this means what he would otherwise be obliged to give to a third person, and being willing to get your custom, will find it his interest to supply you with none but what are good, and thus your advantage becomes his own.

The Peach is budded upon three different stocks, *viz.* upon that raised from its own kernel, upon the almond, and upon the plum. They bud however but few upon the first of these, which is too subject to gum, and therefore generally make use of the two latter. In the choice of these you must be guided by the quality of your soil; if it is light and sandy, you should prefer the almond stock, upon account of its tap root, which, by seeking its nourishment deeper in the earth than the plum, is defended better in a time of drought.

If the soil is strong, and the bottom either gravel or stiff clay, you will chuse those upon the plum stock, because the roots of these do not run deep, and are sufficiently nourished in a moderate depth of soil.

The best way is to pursue the same method that has been before practised in the place where you are situated; for there are few countries where this fruit has not been cultivated, and it is naturally to be supposed, that that kind of stock is the best, which, after a

good deal of experience, has been most generally used. However, notwithstanding this general rule, it sometimes happens, that one of the two sorts will be less subject to gum than the other, especially in land, which is of a middling strength, neither too light nor too stiff.

The Peach may also be budded upon the apricot, and will succeed very well, but it is seldom practised except where there are too many apricot trees, or if, for want of other stocks, you are desirous to propagate some particular curious sort of Peach in this manner, in order to produce fruit sooner than in the common method.

In case of necessity the Peach may be budded upon its own stock ; and this is a very good way, when a young tree happens to bear some bad sort of fruit. This should be done in the month of September, upon the first year's shoot, or at most upon the second ; but to do it with greater certainty, it will be proper, in the month of March, to cut down the trees you would bud, within twelve or fifteen inches of the ground. Soon after this, they will make several young shoots from the stem, which you will take care to train, by rubbing off the buds in such a manner as to leave only four good shoots at proper distances, which will be thrown out very vigorous, and upon these you bud with ease at the end of summer. They generally

generally succeed very well, provided they do not gum ; and to guard against this, you must take care not to bud while the sap is up.

C H A P. IV.

Of the situation and exposure of Peach Trees, and the manner of preparing the ground for them.

THE tender Peaches, generally speaking, do not thrive well in an open situation in every country ; even in our climate, the cutting winds, which happen in the spring, the cold rains, and the white frosts, often destroy the blossom, as well as the leaf, and the fruit rarely sets. In the hot countries, the violent heat of the sun destroys them after they are set, and they adhere so weakly to the stalk, that the least wind blows them down, and leaves very few to ripen ; those which do escape are tasteless, and have neither the juice nor flavour which they have in a more temperate climate. There are some common sorts which grow about Fontainebleau and in all the southern provinces, which being of a more hardy nature, and of a middling size, are not subject to these accidents, and most generally resist the injuries of the weather. These grow as well in vineyards as in gardens, without any management ; but in comparison with what we

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raise

raise here, they hardly deserve the name of Peach. These are not desirable kinds, and therefore I distinguish them from those hard Peaches which are called Presses, or in some provinces, Auberges, or Mirlicotions : This sort succeeds perfectly in the open air in all the warm countries, and has a much higher flavour than it has here, which is its chief merit, for the flesh is very hard and dry ; however, for want of better sorts, they are well contented with this, and raise it in great abundance ; the cultivation is very easy, and requires no directions.

But to return to our tender Peaches. It is certain from all experience, that they will not thrive well but against an espalier and wall ; and even in this climate, there are but two exposures that suit them, *viz.* the south and east ; nevertheless I know many people who plant them to the west, and in some places they succeed, though it is not common. I once planted two walls of this aspect of 150 fathoms each, and had the patience to train and manage them during eight years, without receiving any advantage. Weary at length of such an unprofitable cultivation, I headed them down some years ago, and budded them all with the Queen Claude plum, which in four years almost covered my wall, and produced very fine fruit. I should therefore advise all those who are in the same circumstances to pursue the same method, if their trees are proper to receive the buds ;

buds ; but those who plant young trees should never put any upon this aspect, at least not in our climate, nor in a soil so cold as mine ; though, as I said before, there are places where they will succeed pretty well in this exposure, especially in gardens that are well sheltered. In the more southern climates, they may thrive even better in this than in either of the others ; but every one must judge of this according to the country he lives in.

Another circumstance particularly to be attended to, is never to plant these sorts upon a wall built against a bank of earth, such as the walls of a terrace ; for though the trees will blossom, the damp communicated to them from the wall, generally kills the flower, which, instead of setting for fruit, drops off. Besides, these sort of walls are commonly full of ants, which destroy the trees ; and the moisture that soaks through, soon washes down the mortar from the bricks.

To conclude : The situation of your trees being determined, relative to the circumstances I have mentioned, nothing remains but to plant them, a matter that requires equal attention.

If you make a new plantation, you should have trenched up your ground in good weather six feet from the wall, and three feet, or at least two feet and a half deep, if you do not sooner come to gravel or clay ; but if you find either of them nearer the surface, you must leave off ; for if once you break through the gravel, and

lay good earth in its stead, you may be certain of losing your trees. I am convinced of the truth of this by experience, and the reason is this : The rain standing so long in this kind of reservoir of clay or stone which you have made, in a few years rots the roots, and they will die as often as you plant them ; for the earth itself becomes putrid, and no longer retains any virtue : so that you will be obliged to desist from planting. However, you must not be discouraged, if you meet with these kinds of soils ; if there is a foot and half, or two feet of good earth, your trees budded upon the plum stock will shoot very fast ; especially if it is a fresh soil, or has been planted with other sorts of fruits : for I must observe, that if it has been long planted with Peaches, the salts proper for the nourishment of these trees will be exhausted, and it seldom happens that a new plantation of the same will thrive. The remedy in this case will be, to take away the old earth, and replace it with fresh, if you have any near enough, which should be made about two feet and half deep, and five or six wide. If you have none, or that you are obliged to fetch it from a great distance, at a considerable expence, you may lay some rotten dung, and let it be well dug in with a fork, mixing it with the old earth as equally as possible, so that there may be an equal quantity from the top to the bottom. The dung should also be kept at some distance from the roots, otherwise it
may

may heat and canker them. I have often experienced both these methods, and they have succeeded, at least for some time. This kind of preparation puts the trees in a good way for five or six years, though it is by no means certain that they will continue in it. For in this time the roots being often obliged to extend themselves into the neighbouring earth, which they find worn out, and exhausted, the tree makes very weak shoots, and at length dies.

The same practice is to be observed to renew an old plantation; but the best method to make your soil most profitable, is to change the sorts; that is, to plant kernelled fruits in the place of stoned fruits, and the contrary: but since it rarely happens that you have a great many good aspects, and as those you have must be made use of for such sorts of fruit as require them, the directions before laid down must be pursued.

C H A P. V.

Of the manner of planting the Trees.

YOUR ground being prepared, you will trim your trees; that is, shorten and tip the roots in such a manner, that the part which is cut rests upon the ground, and cut off all the fibres. A hole is then to be dug, proper

to receive the roots, and the loose earth thrown in upon them, which should be settled between them with the fingers. When they are entirely covered with earth, you set the tree upright, by closing the earth gently all round with your foot, taking care that the bud is quite even with the surface of the earth. You should chuse a good day for this operation, when the ground is in good order, neither too dry nor too wet; but if this cannot be avoided, you may plant them as I have directed above, only omitting to tread the earth round them, if it is very wet; but, in either case, a pail of water may be thrown down, to settle the ground, and make the trees take root the sooner. Care should be taken before they are watered, to cut them down to six or eight inches above the bud, and turn the wound next to the wall. When they are headed down, they should be held very steady with one hand while they are cut, that the force used in cutting them may not disturb the root. I suppose here, that the ground is soft, and well soaked; for if it is dry, it will be sufficient to place the foot upon the root, so that the point of the shoe may bear lightly upon the bud. The same precautions are to be observed with regard to standards or half standards, if you plant any between the dwarfs; but as these are budded at the top of the stems, it is of no consequence whether they are planted a little deeper or shallower; the most essential point

is, to range their heads exactly upon the same level, that is, at the same distance from the coping of the wall.

I must now give some directions for the distances at which they are to be planted.

If your walls are not above six, seven, or eight feet high, I should advise the planting none but dwarfs, and those at fifteen feet distance from each other, especially if your ground is fresh ; for in seven or eight years, if they are well trained, they will cover the wall entirely.

If your ground is old, and your walls are above nine feet high, some half standards of about four feet may be planted in the spaces, provided that as the dwarfs spread, you cut away every year the lower branches of the half standards ; and at the end of six years, or thereabouts, when the dwarfs have reached half way up the wall, you may entirely take the others away, that these may have room sufficient to extend themselves.

In this last case, that nothing may be lost, you may follow a method I have practised, which is to slit-graft your half standards in the month of March with plums or apricots ; if they are upon plum stocks, they should be grafted below the old bud, and in the autumn following they may be taken up, and removed to another place. These make good trees planted in a half-sheltered situation, which bear very soon, and having stronger stems, resist

to receive the roots, and the loose earth thrown in upon them, which should be settled between them with the fingers. When they are entirely covered with earth, you set the tree upright, by closing the earth gently all round with your foot, taking care that the bud is quite even with the surface of the earth. You should chuse a good day for this operation, when the ground is in good order, neither too dry nor too wet; but if this cannot be avoided, you may plant them as I have directed above, only omitting to tread the earth round them, if it is very wet; but, in either case, a pail of water may be thrown down, to settle the ground, and make the trees take root the sooner. Care should be taken before they are watered, to cut them down to six or eight inches above the bud, and turn the wound next to the wall. When they are headed down, they should be held very steady with one hand while they are cut, that the force used in cutting them may not disturb the root. I suppose here, that the ground is soft, and well soaked; for if it is dry, it will be sufficient to place the foot upon the root, so that the point of the shoe may bear lightly upon the bud. The same precautions are to be observed with regard to standards or half standards, if you plant any between the dwarfs; but as these are budded at the top of the stems, it is of no consequence whether they are planted a little deeper or shallower; the most essential point

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If your walls are not above six, seven, or eight feet high, I should advise the planting none but dwarfs, and those at fifteen feet distance from each other, especially if your ground is fresh; for in seven or eight years, if they are well trained, they will cover the wall entirely.

If your ground is old, and your walls are above nine feet high, some half standards of about four feet may be planted in the spaces, provided that as the dwarfs spread, you cut away every year the lower branches of the half standards; and at the end of six years, or thereabouts, when the dwarfs have reached half way up the wall, you may entirely take the others away, that these may have room sufficient to extend themselves.

In this last case, that nothing may be lost, you may follow a method I have practised, which is to slit-graft your half standards in the month of March with plums or apricots; if they are upon plum stocks, they should be grafted below the old bud, and in the autumn following they may be taken up, and removed to another place. These make good trees, planted in a half-sheltered situation, which bear very soon, and having stronger stems, resist

the winds better than any others. I have grafted a great number in this manner, which succeeded so well, that out of eighty which I removed in one year, only one failed. Take them up therefore, and replant them in the manner I advise in the sixteenth chapter.

If you prefer grapes to half standards, you may plant some cuttings either of the *Muscat*, or *Cbasselas*, which will produce you fruit for some years; and when your dwarfs want room, they may be taken up in the same manner as the half standards: But remember to leave at least a foot and half space between the extremities of the dwarfs which were pruned in the winter, and the lowest shoots of the half standards, or the stem of the vine; for as they will grow away freely, they must not be incommoded with the shade of others; and besides, there must be sufficient room to lay in the new shoots.

If your wall is ten or twelve feet, or more, you will find it necessary to plant standards of six feet between the dwarfs, otherwise you will be a great while before you can expect to see the wall covered; and perhaps it never will be so entirely, though the distance is quite sufficient for both of them to grow, without interfering with each other.

There are now but two things more, necessary for the success of your trees; the first is, that the wall is in good repair; and the second, that it is furnished with a treillage.

First,

First, In order to have the walls in good repair, it is necessary that they be well coated with plaister* on the side next the trees, and with good mortar of lime and sand without-side, if you do not chuse to be at the expence of the former. Particular care should be taken that they are well coped with plaister, though in places where this cannot be obtained, mortar must be made use of; but it should be made very strong; that is, two fifths of good lime, newly burnt, to three fifths of sand, with as little water as possible; for if the mortar is weak, the frosts will make it peal off, the rains soak into it, and run it down, the storms scatter it about upon the trees and fruit, which is soiled, and vermin of all sorts, particularly the wood and house mice, infest all parts of the wall, and destroy the fruit about the time of its ripening. Happy are they who have it in their power to build them with brick, as they are in great part of Italy. These walls once built want no repairing, and insects cannot get into them; instead of that, our plaister is but of short duration, and requires every ten or twelve years, to be new coped, and sometimes new coated. In the second place, your walls must be supplied with a good treillage, which requires a full explanation, for they are very little known beyond the neighbourhood of

* The plaister spoken of here, means what we call Plaister of Paris, and is more expensive than common mortar.

Paris, and even there, very few are apprised of the advantage of them; besides, the expence appears to be so exorbitant, that those who are inclined to it, do not know how to procure them in the countries distant from Paris.

Various methods are employed for obtaining a treillage, all of which are very indifferent; some make use of large wire, which they stretch five or six times along the wall, one above another, and fasten it at distances with large nails. Others form this wire into lattice work, like those made of wood. Both these methods are equally injurious to the young shoots of our Peach trees, for the wind working them against the iron, rubs off the bark, and the gum which comes out soon after, kills a great number of them; besides, these wires are placed so far apart, that the shoots cannot be laid at proper distances, nor tied firm; and it is even impossible to dispose properly some of the great branches, which sometimes require to be altered, and placed higher or lower, as there is occasion. There are also other inconveniences, which I forbear to mention.

The little sticks made use of by some, are no stronger than the wires; for one blast of wind sometimes loosens a whole tree, the branches are broken and bruised on all sides, and the fruit falls off; besides, the adjusting this, will take up as much time as the placing all the twigs. They are also obliged to drive
in

in pegs or nails to fasten the sticks upon, which ruins the plaister of the wall, and makes an infinite number of holes, which become so many harbours for all insects, and the walls want continual repairs ; so that this is at all events a poor expedient.

Others in building their walls, introduce bones of sheep, at about six inches distance from each other, which project about three or four inches from the wall, and serve to tie their trees to ; but in my opinion, this makes a most disagreeable appearance, and the consequence of it is, that you are frequently obliged to croud several shoots close together, which makes the tree lay very irregular.

The little pieces of wood stuck full of nails, which the people in and about Montreuil make use of, are, in all respects, less dangerous ; and I confess, that upon these the shoots may be placed with sufficient strength and propriety ; perhaps too, they may have some reason to think, that the fruit which grows close to the wall, ripens somewhat sooner, by means of the sun's reflection, than when there is a treillage behind it ; but at the same time, the driving of three or four hundred nails in the extent of a tree, when full grown, and the putting so many bands round each shoot, to keep them in their places, is a work that requires great time and pains ; and by the observations and comparisons I have made of each method, even those who are most expert at it, cannot in two hours

hours and a half do so much work, as may be done upon a treillage in an hour at most. This difference in the time is a very considerable object, not to mention the expence of nails and wood, a great part of which must be renewed every year; in short, what is practised at Montreuil, may not be done so easily elsewhere. These people have their plaister at their doors, and it does not cost them above * 4 livres the † load, while in all other places, they pay § 8, 10, 12, and even 15 livres. Again, their earth is full of small stones, which they pick up themselves, and mix with the rubbish from their old walls. These are the materials they use, and the expence is trifling. The walls so built, being full of joints, and coated with plaister of a good inch thick, easily receive the nails in every part; but in the ordinary walls, which are built with hard stone and mortar, and often with earth, or at best only new-coated with plaister and rough pieces of stone, the nails meet with nothing but stone, which they cannot take hold of, and the mortar is too soft to hold them fast. This method therefore of laying trees becomes impracticable, and I know of no good one but the treillage, without which, I affirm, that a tree cannot be well trained. Experience will convince every

* 4 livres is 3 s. 6 d. sterling.

† The muid is nearly thirty-three bushels English.

§ 8 livres is 7 s. — 10 livres, 8 s. 9 $\frac{1}{2}$ d. — 12 livres, 10 s. 6 d. — 15 livres is 13 s. 1 $\frac{1}{2}$ d. sterling.

one of the truth of this, better than all I can say upon the subject, and it is by this alone, that the great utility of it can be known as well for training the tree properly, and keeping it always full without confusion, as for the expedition of working in the time of laying in the shoots, and for the preservation of the fruit.

C H A P. VI.

A description of a Treillage, and the manner of making it.

THE great utility of the treillage is acknowledged by every one, but the expence is thought so great, that many cannot afford it; I pity those who upon this account are deprived of it, but I assure them, whatever means they use to supply its place, they will never see their walls regularly furnished, nor their fruit, generally speaking, in perfection: they must therefore confine themselves to fewer trees; 20 fathoms in a flourishing condition, will give them more pleasure as well as more profit, than three times that quantity ill managed; and this is all the advice I can give them. But that I may be of service to every body, I shall lay down some rules of œconomy upon this head.

To this end then, a person who lays out ground, and who always has a profit upon the workmen employed, and those great treillage makers

makers who are always well payed for their reputation, are not proper to be employed upon such an occasion; for the making our treillage does not require so much ingenuity as the planting an arbour, in which, beauty only is expected. It is indeed a very simple operation, so that a person who has the least knowledge of it, may learn the method in twenty-four hours, as well as if he had practised it all his life-time; and near Paris, there is scarce one in twenty to be found who is not capable of performing it.

The bundles of wood fit for immediate use, which the merchants of Paris generally sell for * 40 sols or more, are sold for about † 25 or ‡ 30 in the forest where they are cut out, or by the merchants in the country who make them. These bundles contain twenty-five poles, which they call rods, of nine feet long, and the shorter these rods are, the greater number you have in proportion; for in a bundle, there should always be two hundred and twenty-five feet: this is the rule; but there is a double advantage in having all the rods of nine feet length, as well upon account of putting them together, which takes up six inches, as for the greater strength of the work; but this depends upon the will of the merchant, who is not always very easy to deal with. You should take

* Two livres, or 1 s. 9 d. sterling.

† 1 s. 1 d. half farthing.

‡ 1 s. 5 $\frac{3}{4}$ d. sterling.

care that the wood has no sap, which makes it very brittle, and there is a good deal of loss in shaving it. The sap is known by its colour, which is yellowish; but young poles are the best for this use, that are strait, without knots, or at least few, and the sap of these is white.

A bundle of rods makes very near two fathoms square of work, allowing the lattice eight inches by seven, which it ought to be; so that half a bundle makes a fathom, which, at the price mentioned above,		liv. sols.
is worth	— — — — —	0 15
A fathom requires four hooks, which sell at 5 or 6 sols per dozen	—	0 2
For wire, at 10 sols per lb.	—	0 2
For the making each fathom	—	0 5
For painting the treillage twice in oil, of the colour of the wood	—	0 10
		<hr/>
		1 14*
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Those who chuse to paint it green, must reckon that article treble; but that is of no service to the trees, which is the point we have in view.

This expence ought not, in my opinion, to be thought so extravagant, as to prevent any one from making a treillage; since from the above computation, it follows, that it would

* 1 s. 5 d. sterling.

cost

cost but * 25 pistoles to make one of an hundred fathoms long, and nine feet high; it will be allowed however, that gardens become every day less expensive.

It is proper now to give a description of the treillage, for the sake of those who have not seen it, that they may be able, wherever they are situated, to make one properly.

The wood I have been speaking of, should be cut out of young chestnut poles, of ten or twelve years growth; if these are not to be procured, they may be made of heart of oak, which is as good; but the former works more freely, and is commonly to be procured every where. You chuse in the wood, the longest and straightest poles, and those that are not barked by deer or other cattle, which in some places, do them great damage. The largest poles are best, because they may be cut into two or four, if there should be occasion. Each rod, when planed and squared, should be an inch, or fourteen lines † broad, by nine or ten thick, and it is the workman's business to mark off the thickness of the rod before he planes it.

Notwithstanding all the care that may be taken in chusing the straightest poles, it sometimes happens, that in such a length there will be some crooks; but this is corrected by a second operation, when the wood is cut out,

* 20 l. sterling.

† About an inch and one eighth.

which

which they call framing the treillage. The workman holds the pole in his left hand, resting it upon a block, and with a bill makes a notch obliquely under the crook; he then leans his hand carefully at some distance from the notch, while the pole is held a little above, by an iron hook, fixed in a tressel, and straitens it; and as many crooks as there are in the pole, so many notches must be made, till the whole is made strait, and looks well to the eye.

The wood being thus prepared, the next thing is to put it together, and the method is this. They measure first how many horizontal laths the wall will require, for making the lattice work, which I suppose will be about nine inches by eight, including the thickness of the wood. From hence then it follows, that a wall of nine feet high will require twelve; for 9 multiplied by 12, is 108; which is the height of the wall in inches.

They mark off these spaces upon the wall with chalk, in lengths of about eight fathoms. When this is done, they drive into the wall two iron pins from one space to the other, upon the lines where the hooks are to be placed, and stretch a string from one pin to the other, to take the exact level for the hooks.

To explain this clearer, I will suppose three rows of hooks are required to hold the treillage fast; the first, at the top lattice but one; the second, at the bottom lattice but one; and the

D

third;

third, in the middle between these two; that is, about the sixth or seventh. This done, these holdfasts are fixed checquer-wise, three feet every way, with plaister and some pieces of tile; but the mortar, though very good, will be of no use, unless it is quite dry before the work is begun. In case of urgent necessity, or if you have no plaister, large pegs of hard wood may be made use of, which are driven very tight in the joints between the stones, and in these pegs the holdfasts are driven, which must for this purpose be made four or five inches long in the shank; whereas those fixed with plaister should be six or seven inches, and divided at the end something like a swallow's tail, to fasten them better in the wall. Whatever way they are used, they should be turned up about an inch at the end, in order to hold fast the rods. I have given this explanation only for those who are entirely unacquainted with this method.

The holdfasts should project from the plane of the wall about an inch, to receive the rods which fit into them, and which, in order to strengthen them, are fastened in with a piece of wire; they should also be flat, and about a * line and half thick, by four or five broad. Those that are designed to be fixed in wood, may either be round or square, about the size

* Not quite the eighth of an inch.

of a large nail, but the bend or hook must be flat.

The holdfasts being fixed all along the wall, the three rows of rods are then laid upon them, (I use the terms, laths, rods, and treillage, indifferently, as they are the same thing). A third operation which the rods demand, must not be omitted, which is to chop them off to nothing, at about six inches from each end; so as the more easily to splice them together with pieces of wire.

When these three rows of lattice are fixed, the most difficult part of the work is done. The divisions for the standards should now be set out, which must be about eight inches apart, including the thickness of the wood. These divisions are marked with chalk, as before, upon the highest and lowest row of lattice, observing to level them by a line, that they may all be quite upright and even, which should be done at first.

In order to place the remainder of the horizontal laths behind the standards with more convenience, they set up only two standards about six feet apart, to which the nine laths are fastened with wire, being the remaining ones of the twelve which I have said are to be fixed. When they are all placed and fastened, the rest of the standards are fixed, and the whole is made fast with wire.

I believe no one can now be ignorant of the manner of making a treillage: I shall only

add, that the wire should be made very fast with pincers, which you hold in your right hand, while with the left you twist the wire, keeping it always rolled up in a ball, and when you have turned it three or four times round the laths, you cut it off with the pincers.

It is to be observed as to the wire, that the finer it is, the quicker and better the work is done, provided it is strong enough to bear working. It should for this purpose be properly nealed in a fire, neither too little or too much; for when it is done too much, it breaks, by holding in the pincers: It should remain in the fire a full quarter of an hour.

But to return to the treillage; I must not forget to observe, that whether the walls are built upon level ground, or upon a slope, the standards must be exactly upright, and the laths fixed as I have before mentioned. If they are upon a slope, the fixing them upright depends upon making the lines for the holdfasts nearer each other; so that the laths may follow regularly the inclination of the wall. If it happens, that one part of a wall is built upon higher ground than another, so that twelve laths are required at one end, and ten only at the other, the plan of the lattice should not be altered at the top of the wall, but rather let the laths be irregular at the bottom.

The treillage being finished, there remains nothing more but to paint it; and as it is generally

nerally painted all over, I shall only observe, that fine weather should be chosen for this purpose, and that you should not be sparing of white lead or turpentine, which dries fast; for if the rain comes upon it before it is dry, it will make it peel off.

By adhering strictly to these directions, every one, in all countries, with a moderate degree of knowledge, will be able to have the pleasure of furnishing his walls with a treillage; for without that (I repeat it again) he can never hope to have any satisfaction in his trees; so far from it, that very few gardeners are capable of making up by their industry, the want of this advantage.

C H A P. VII.

Of Pruning.

IT is the general custom to prune Peach trees when they are in blossom, though some wait till the flower is dropt, and the fruit set, upon a supposition that what is left will be more certain of coming to perfection. But this last method is subject to many inconveniences. Supposing your tree is in blossom when you begin to prune, it is impossible, notwithstanding your utmost care, to avoid rubbing off a great number of the flowers; and if you defer it longer, it will be still more

injurious. The sap which should have nourished the bottom part of the shoots, (if they had been shortened at a proper time) will be all carried to the extremities, and it is there only the fruit will set; the consequence of which is, that in order to have any fruit, you must leave your shoots of an excessive length, which ruins the tree; or you must give up the fruit, to preserve the tree; a cruel alternative! In the first instance, if the trees are only in blossom, it requires great care to fasten them to the treillage after they are cut; you injure the flower, and employ a great deal more time than if you had pruned them sooner.

Moreover, the buds, which begin to shoot at the same time the flower opens, in a great measure hide your work, and you can no longer distinguish it clearly; besides that so many shortened branches produce a great number of stumps, which will be to cut out the next year; the quantity of blossoms too will prevent you from placing the bands so properly, or laying in the shoots so fast, as you might otherwise do; you cannot see the defects of the wood, or the old stumps that want taking out; and, in short, you must work by guess.

I experienced all these inconveniences the few first years I worked alone, by following the general rule: but afterwards, upon trying what effect an earlier pruning would have upon some trees, the fear I had, according to the
vulgar

vulgar opinion, of their being too forward, and that the spring frosts would destroy the blossom, soon vanished. The trees I pruned at the end of January, and in February, were not forwarder than those I pruned in April; nor had the blossom or wood suffered any injury. I continued in the same manner to prune a greater number the next year, and with the same success. In short, the third year I pruned all my trees in the same month, and have pursued that method many years since with entire satisfaction. I therefore advise every body to follow my example, notwithstanding the common prejudice against novelties; for it will soon appear, that the work is done quicker, and in all respects better; you see clearer at least what you do, and the good buds are easily distinguished in this month from the bad; for the sap will have begun to swell the good ones, if the winter has not been too long and severe; but if that has been the case, it must be deferred a little longer. What I observe of distinguishing the good buds from the bad, is of great consequence; and to enable you to do it, the sap must have risen; that is, they must be swelled in some degree. It will no doubt be objected, that in January and February the winter is not yet past, that such buds may then be good, and afterwards die; and in that case there would be no resource left, of laying in shoots for bearing. I grant this fact; but I answer, that if the sharp winds blast the flower

in March or April, those trees that are not pruned, are equally liable to the same accident; Besides, there are four times as many blossoms left, as can possibly set; and if they all succeeded, I might allow three quarters of them to drop off, without sustaining any real loss; so that I do not run any great hazard; and if I did, I have found so much greater advantage from my own method, that I should overlook it. To what end then is such a quantity of fruit to set, since, in May or June, all that exceeds the proper burden of the tree is to be pulled off? In short, the last, though by no means the least, advantage is, that when the fruit is fairly set, it grows much faster, than when the trees are pruned in full blossom; and the reason is plain; the sap having been less divided, because it has not had such a number of shoots to nourish, is carried in greater abundance to those that are left. I have experienced the truth of this, and have never suffered the least inconvenience since I followed this practice. I have always had a great quantity of fruit, except in the year 1741, which was generally fatal to all fruit. Such a continued experience ought to be convincing against the theory of all those who are attached to their opinions, and prejudiced against all methods of which they are ignorant.

I ought not to omit one caution, which is of more importance than may at first appear; that is, never to begin to prune a tree, without

out first untying all the branches ; for then you are not so liable to break off the shoots, and you can the more easily clear the tree of all dead leaves, old osiers, &c. and destroy the harbours of insects, which will devour your fruit, particularly the Violet Peaches, which the slugs and snails are very fond of.

I now proceed to the method of pruning. In this you must consider the state of the tree, whether it be young or old, healthy or unhealthy ; the progress it has made will point out to you what is necessary to be done ; and in short, you must treat it in proportion to its strength and condition.

To begin with the operation of the first year : If you find the tree has made only weak shoots, you must reduce them to two or four, well placed on each side, and of equal strength, which must be shortened to five or six inches ; if there is a small one in the middle that will bear fruit, you may leave it ; but if it is as strong as those on the sides, cut it clean out ; for as the middle will always furnish itself sufficiently, you should attend wholly to the sides. The future success of the tree depends entirely upon the form that is given to it for the two first years.

If it has made two strong and vigorous shoots well-placed, one on the right, and the other on the left, preserve them, and cut them down to eight or ten inches. You may also leave here and there a small one for bearing.

It

Thus much for the first year's management; let us now consider it from the second to the sixth. I have already spoken of the method of treating such trees, as are inclined to sling out too much wood, and which require a good deal to be left, in order to check their luxuriance, and force them to bear. Those that make but weak shoots must be treated according to their particular circumstances; but above all things observe to keep the middle short, and not to leave more wood on one side, than on the other. It very often happens, that one of the two shoots left on the sides is stronger than the other; you must not therefore be enticed by the hopes or prospect of fruit; but cut every thing clean out, that exceeds the strength of the other, and leave all the shoots equally strong.

One fundamental rule to be observed, is, that your whole tree should depend upon two or four good branches, of equal strength, which ought to produce all the rest. These you must take particular care to lay at equal distances from each other, and leave them as long as they will admit of; you may leave them twelve or sixteen inches when they are strong enough.

The middle-sized shoots must be left in proportion to the vigour of the tree, about six or eight inches, according to the space there is to fill up, and the distance from the bottom of the shoot to the fruit-buds, which is often pretty

ty long, especially in some sorts of peaches; and as the fruit is our chief object, rules may be sometimes dispensed with, and the shoots left a little longer. It must be observed that the good fruit-buds are always double; and have a leaf-bud between them; those that are single, though they have a leaf-bud, and blow pretty well, do not set for fruit, at least but seldom.

Take care that you are not so covetous of fruit as to overload the tree with wood, which immediately throws it into confusion, and ruins the middle and bottom. Those old stumps and the weak shoots, which most gardeners value for bearing, must be cut out, if you have enough that are better, I mean of the middle-sized ones, for by a shoot of some substance, the fruit will undoubtedly be better nourished, and not be so liable to fall off, (notwithstanding the common opinion, that the weak ones retain it better;) of which every one will be convinced, if they attend to it. It is only therefore for want of better, that you must preserve any of these weak shoots; nevertheless there are some exceptions.

First, if your tree is too vigorous, and requires a great burden of fruit to check it, you must leave a good many of these small shoots. Secondly, if your middle-sized shoots have no fruit-buds below the place where they should be shortened, and you are desirous of having fruit, you must leave some of those that are shortest

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shortest and best disposed, for that purpose. I do not comprehend under the name of weak shoots, those short ones of one or two inches long, which have generally a cluster of fruit-buds upon them. These are very valuable and always produce the best fruit, and for that reason, I never take them out.

The use I sometimes make of these weak shoots, is to cut them down to the first eye, to furnish wood where a vacancy is likely to happen; one of these weak shoots, so pruned, may produce a better for the next year; if it is not wanted then, you may cut it down a second time, in the same manner, till it is. These kinds of shoots should be carefully attended to, as they are very necessary, in order to keep the tree full, and to supply the place of the shoots that are exhausted with bearing; and this method must be observed, as well in the middle-sized shoots, as in the weak ones I here speak of.

If your tree makes but weak shoots, you must examine whether the disease is in the root; if it is, pull it up; if not, preserve it and lay some rotten dung to it, as I have directed in the eighteenth chapter. Dung often renews these sort of trees, but as they decline, they must be pruned very short, even upon the best shoots.

This is my method of managing Peach trees for the first few years, but I must not omit to mention, that it requires great care and
attention

attention to lay and fasten them properly to the treillage after pruning.

First, As they are naturally inclined to run up in height, you should be particularly watchful to keep the bottom well furnished with bearing wood ; and there are two methods of performing this, one by pruning them well, upon which I have sufficiently enlarged ; the other, by bringing the shoots well down to the sides, and laying them strait, and at equal distances ; you must be attentive too, that the shoots do not take a bad direction ; but if they have, it must be remedied by separating those that grow together, as well as those that are crossed and crooked. This is effected by the help of osiers and little sticks, which bring them strait. In short, it is your own dexterity alone that must direct you in these little operations. But to proceed—

Second, Another circumstance to be attended to in laying in the shoots, is, that the bud at the end of the shoot be so turned, that it may take its direction along the front of the treillage, and not behind it. This is easily seen, and if it gets behind, it may be brought back again, and supported by a little stick, or tied to the treillage, if there is occasion.

I shall add to these observations, that the bands should not be tied too tight, which often cut the shoots as they swell, nor should they be placed under the buds in tying them ; a little dexterity will prevent these defects, which,
though

though they are not of very great consequence, are nevertheless attended with inconvenience.

It often happens that some of the shortened shoots cannot reach the treillage; in which case, little sticks must be wove in between it. An osier twig is tied to the end of the shoot in a slip knot, and the other end being fastened to the treillage, thus confines the shoot; this is more necessary if there should be any fruit upon it, which would weigh it down, unless it is supported.

These last observations regard Peach trees of all ages: let us now return to the pruning. I have remarked all that is necessary for trees in their first state, and shall now speak of those of the second and third. I suppose a Peach tree to be in its second state, when it is in full vigour and perfection; and in the third, when it begins a little to decline. These cannot be too much cherished, they should be pruned very short, and upon the best shoots only; the weak ones should not be preserved at all, because in an old tree they produce but very sickly fruit.

If by chance any of your old trees should have put out a pretty, strong shoot from the bottom, you must preserve it carefully, to succeed the old branches, which are cut away by degrees; but if it comes out of an old branch, cut it clean out. I have nothing more to say of these old trees; except that you ought to be very careful of them, so long as, in spite of
old

old age, they continue to bear good fruit; but the moment they fail in that, they should be pulled up.

As trees of the second state, that are in full vigour and bearing, are what our profit depends upon, they demand a more particular regard.

The generality of gardeners, who work without principles or judgment; and without troubling themselves about consequences, are very soon ruined by their bad conduct. This it is that gives rise to the general notion, that a Peach tree never lives above twelve or fifteen years; but this is a gross mistake, for I have myself some that are above forty years old, and still thrive pretty well. I had not the training them for the first twenty years, but they had been well managed, and since they fell into my hands, I have taken such pains with them, that they still bear very fine and good fruit. I have a great number more that I planted fifteen or eighteen years since, which are indeed very beautiful, and which I still look upon to be in their infant state; so that if I had a prospect of living thirty years longer, and managing them myself, I am clear they would endure so long. To be convinced of this, you need only visit the plantations at Montreuil, where you will see trees of the age I mention in the gardens of some; who no doubt have managed them better than they do even here in general; where they force

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them

them to bear, without troubling themselves about their duration, because the occupiers of the ground are obliged to make the most of it. I have seen a plantation of eight fathoms in length, which were all equally healthy and vigorous throughout, and which I judged to be about fifty years old. This opinion therefore of their not lasting long must be given up, for it is owing only to bad management, that they do not live as long as any other fruit trees. I suppose, when I say this, that they are planted in a good soil, and that no particular accidents happen to them; for if the soil is bad, if they are tainted with gum, or if the bugs or ants attack them violently, they will die in spite of all the care and pains you can possibly bestow upon them. I have this advantage among many others, of being exempt from all these evils, which are not to be looked upon as peculiar to this sort of fruit, and therefore all means should be used to continue them in health.

The duration of a tree depends chiefly upon good pruning, and the whole art of this consists in keeping it well filled with bearing wood in every part equally, and not leaving too much. This at first sight appears easy, but it has its difficulties; such as the proper choice of shoots, the progress the tree has made, the situation of the fruit-buds, the sort of fruit, and many other circumstances, for which some rules may be laid down; but there are particular

particular instances which cannot be judged of but upon the spot, and depend chiefly upon practice.

Every one has a method of his own, and prunes according to his own ideas. Some shorten all the shoots, while others leave those longer that are designed to bear fruit, and depend upon spurs for supplying wood for the next year. My method is quite different, and after a great deal of study and observation, I still adhere to it as much the best.

I will suppose that the tree I am to prune, has been trained while it was young nearly upon my principles, and that it is regularly and well filled with wood ; for if it is defective in any particular part, it must be treated according to the circumstances it is in.

When I find a tree in good order, I first loosen it from the treillage, and then look for all the branches that are worn out, which it is easy to distinguish by their weakness and the bad shoots they have made. I cut these down to the great branch from whence they proceed, unless they have put out some good shoot, above which I shorten it, if there is no other near to supply its place. From these I pass to the shoots of the year, and cut out all the rank ones, that is, such as exceed the middling size. I cut out also all the weak shoots, unless it be necessary to keep some one to supply a vacant place, or as a resource for the next year ; in which case I shorten it nearly to the

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thickness

thickness of a * crown-piece, as I before observed ; except always the little clusters mentioned above.

Having thinned the tree in this manner, there is nothing left but shoots of equal strength, and I see my work clear. I have now nothing to do but to leave a proper quantity of wood, for which the following is the rule. I leave but one of all those which have pushed out from the shoot I shortened last winter, and that the lowest, which will be a good one, by means of the summer pruning. If that has been neglected, the best of the lowest must be chosen. After this second reform, I proceed to the third, which is to shorten the shoots. I examine first whether my tree was loaded the last summer, and what sort of fruit it is; accordingly I leave the shoots longer or shorter. If, for instance, it is a Magdalen or Violet, as these trees are always more vigorous than the other sorts, I leave a little more bearing wood ; but if it is a different sort, and has not been too much loaded, I leave the shoots eight inches, if I have room ; if I am straitened, and have nothing below to supply the place of the worn-out shoots, I cut them very short, leaving them only three or four inches ; I generally leave one half of the shoots long, and the other half short, by which means I keep the tree always full, and do not exhaust it.

* Or to the lowest eye.

I have said that I never leave but one of those shoots which have been produced from that which was shortened last winter; but there are some exceptions; such as when a neighbouring shoot has been destroyed by the gum; in that case, if I find two good ones of equal strength, come out of the bottom of the shortened branch, or have a large vacancy to fill, I cut both of them down to five or six inches. If there is no immediate want of them both, and that I only foresee a vacancy is likely to happen after the first shoot is worn out, I shorten the uppermost, and cut down the lowest to the first eye, that I may be certain of a good one for the next year.

As to the extremities, I am governed by the room I have left upon the wall. If the tree covers it entirely, I prune so as to leave it a good foot from the coping, that I may have room to lay in the young shoots; for which purpose, I take out all the shoots that bare fruit the last year, and replace them with the new ones, which the bottom ought to supply.

Mr. De la Quintinie in treating of this, particularly recommends them to be left three feet from the coping of the wall. But I confess this appears to me to be more than is necessary, for walls are too valuable to have such a space left unemployed and useless.

It may perhaps be objected to my method of pruning only upon one shoot, which is to bear fruit, and not to produce wood, that I run

great hazard of not having a sufficient quantity of good wood for the following years. It will be said that these shoots which spend themselves in bearing fruit, will throw out nothing but weak shoots between the fruit not capable of bearing, that they will at last die, and consequently the tree will become bare of wood.

This objection is plausible, because in fact, in the common method of pruning, the greater part of the bearing shoots are destroyed by being overloaded, and become incapable either of producing fruit or wood, so that they are obliged to cut some of them out the first year, and the rest the second or third; but this does not happen with me, and they die very late, as I shall make it appear.

When two shoots are left, one designed only for bearing fruit, and the other for producing wood; it naturally follows that the sap is obliged to divide itself between them, and that the shoot designed for wood, which has no fruit to nourish, will flourish better than the other; but it is plain, that the sap being carried only to my single shoot, will have the same effect upon that as it would have had upon both the others; that is, it will both nourish the fruit, and produce wood: besides, one part of my shoots are cut short, as I have before observed, and I am provided with more resources, whenever I perceive the least danger of a vacancy. I do not therefore run the
hazard

hazard so much to be dreaded ; but I have moreover sufficient experience of it, to convince any one who will make trial of this method.

The people of Montreuil in some respects follow my method, in leaving few shoots, and cutting out all little twigs ; but they differ from me in loading their trees extremely, particularly the few first years. They leave the mother branches two feet, and two feet and half long, and prune at the same time upon a good part of the small ones that have pushed out between the leaves. It is true, the quality of their soil, in some measure, authorises such a practice ; besides that, they do not concern themselves about the duration of their trees, nor the beautiful shape of them : the only point they attend to, is, to reap a quick and considerable advantage ; so that, after the first four years, the bottoms of their walls generally become bare of wood : this is a defect which a curious person ought not to suffer ; but if any one, tempted by their example, should chuse to overlook it, that he may gather fruit very soon, he will most certainly miscarry ; unless he should meet with a vein of earth exactly like theirs : this may happen, but it is so uncommon, that, of all my acquaintance who have tried this method, not one has succeeded. In short, it may be said in general, that it is a practice more to be admired than imitated.

C H A P. VIII.

Of rubbing off the Buds.

THERE is no operation in the cultivation of Peach trees; (except the winter pruning, which cannot be dispensed with,) of so much importance, as the rubbing off the buds; and at the same time, none less attended to. The certainty of fruit, its beauty and flavour, are three great advantages arising from it; and it facilitates every other work. Mr. De la Quintinie has given some very judicious rules upon this head, but he has not sufficiently digested them, and he is sometimes prolix. I ought however to do him the justice to acknowledge, that the light he has thrown upon the subject, has been of great service to me, and has enabled me to carry my observations still farther, which may be useful to others hereafter. I shall now mention in order, all the important points that depend upon this operation.

The term, rubbing off the buds, demands no farther explanation, as it carries its own meaning with it; and though nothing can appear at first sight more easy, yet the executing it with proper judgment and precision is a matter that requires a thorough knowledge and some experience.

The best time to perform this, is in the
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month of May, as they are by that time sufficiently formed to enable you to make a proper choice, and tender enough not to require any other instrument than the thumb.

This rubbing off the buds is generally confounded with a second operation, called pinching, and a third, called stopping; because they are performed all at the same time. Every one knows, that in the spring, a Peach tree abounds with a great number of shoots, which require to be thinned, and the rubbing off the buds, is only clearing these shoots, which if not done sooner, ought to be done at the first time of laying them in; but it makes an infinite difference if it is done sooner.

As I before observed that the beautiful figure of the tree, and a reasonable quantity of good fruit, are the two principal objects of pruning, all your operations should be directed to these ends. You must therefore ease the tree of every thing that is either useless or hurtful. I call that useless, which though good, is badly placed, and that hurtful, which is bad in itself. These are two evils, which must be corrected; and the shoots that were shortened the last winter, are more particularly subject to them. Or as the shoots are, according to my method, generally left seven or eight inches long, and sometimes more; you will find in that extent eight or ten buds, which are so many shoots. Such a number cannot possibly receive equal nourishment, and will of course
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cause much confusion; you must thin them therefore, and leave only two or three, in proportion to the room you have, chusing one or two of the lowest, opposite each other, together with that at the end, if there is any fruit upon it, and there is none lower.

If there is no fruit set but at the bottom, or if it is set all along the whole shoot, where the number of eyes may be eight or ten; in both cases you must shorten it pretty near half, and keep only three or four peaches at as equal distance as possible, observing always to leave one good new shoot at the end. You should at the same time pinch all the shoots, that grow to the fruit, to the thickness of a quarter of an inch, (which is called stopping;) and if there are any more shoots that have no fruit next them, break them quite off, always confining yourself to two or three.

When a shoot has got no fruit upon it, prune it down to the second of the new shoots; that is, leave only the two lowest, unless the too great vigour of the tree requires more wood to waste and divide the sap.

As to those shoots which were pruned very short in the winter, you should leave but two new ones upon them, the highest and the lowest on the opposite side, and rub off all the rest that have no fruit upon them, or if there is, pinch them down; sometimes however it will be sufficient to leave only one new shoot, and that the lowest.

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If any strong shoot comes out, either from those which were pruned in the winter, or from the body of the tree, you must observe its strength and consider whether it is wanted. If it is likely to prove hurtful to the neighbouring shoots, or that it is useless, cut it quite out, but if it be useful, either to fill a vacant space, or to prevent one, or to exhaust the too abundant sap, pinch it to four or five leaves, and as a new shoot will come out from every leaf, you will have four or five middling-sized ones to chuse out of at the first time of laying them in.

All weak shoots that come out of the old wood, must be cut out, unless any of them are wanted to fill a vacancy, or are likely to be of service hereafter; but all the little clusters before-mentioned must be preserved from whatever part they come.

You must be very attentive to the foot of your tree, for shoots are often thrown out which may serve to replace those that are decayed, and if any such push out very strong, they should be pinched to five or six eyes.

All those rank shoots, which are distinguished by their green colour, size, and redness at the tips, must be carefully taken out from all parts, unless you want them to fill up a place, and you have no other resource; in that case you must pinch them off, which should be repeated in June.

It oftens happens, that two or three shoots come out together from one eye, especially at
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the end of a shortened shoot ; you should leave but one of those, and chuse that which is best placed. Whenever you meet with twin peaches one bigger than the other, which is generally the case, you must with great care take off the least without loosening the other ; but if they are of equal size, either pull them off, or leave them, for neither of them will come to perfection.

These are nearly all the directions to be followed in rubbing off the buds, and I shall now shew the utility of it. It will be easily imagined that this operation performed in proper time must greatly strengthen both the fruit and shoots that remain, for as they receive much more nourishment than they could before, they must of course thrive better.

Moreover, those ill-placed ones, that you have now removed, and which otherwise must have been cut out at the first time of laying in the shoots, would perhaps have grown so vigorous as to have injured the shoot that is well placed, which being now disincumbered and left to itself, will receive more nourishment and become a good branch.

Another advantage is, that you take off the shoots cleaner than could be done with the knife ; for if you wait till the time of laying them in, the confusion caused by so much wood, prevents you from cutting close enough, and the shoots become full of disagreeable stumps, which take up a great deal of time to cut out
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in the winter; and if they are suffered to remain, they make a very bad appearance. Besides the stumps that are left at the summer pruning, generally put out two or three bad shoots, which exhaust the sap to no purpose, cause great confusion, and damage the fruit.

It will happen too that the force necessary to be used in cutting out all these superfluous and ill-placed shoots, and the impossibility of seeing what you are about, will shake off a good deal of the fruit, which at this time would be regretted, since it has in great measure got over all hazards.

Upon the whole you may be certain of fruit, if you have not neglected to rub off the buds, but otherwise the consequence will be, that the fruit being hidden, choaked up, and as it were buried behind such a thicket of leaves and wood, becomes tender, as is evident from the colour, which is rather white than green, and when it is suddenly laid open to the air, joined to a scorching sun, great part of it withers and drops off; for it is to be observed, that as the sap is carried to the extremities of the shoots, and as the tips of them only enjoy the benefit of sun and air, all those that are buried behind the others, will shed their leaves, which dry up to a certain distance, and therefore cannot cover the fruit, or but very imperfectly. But this will never happen when the air has been admitted to the whole extent of the shoot, and when the fruit while young, has been inured to the injuries

ries of the weather and sun; they will grow hardy by this means, and when once they have attained the size of a nut, they seldom drop, unless there are more than the tree is able to nourish.

The fruit too has this further advantage, that the insects, especially snails, do not so readily fasten upon it when it is a little open, as they do when it is tied under the leaves, which make it tender.

Again, It is much easier to set at liberty such fruit as is confined between the treillage and osiers, or between the treillage and the wall. In the first instance, you untie the band, and in the other, you have only to bring it back to its place; but if you wait till the time of laying them in, the fruit will by that time have got half its growth, and be deformed past all remedy.

It will be also too late to replace the shoots that have run behind the treillage, which are sometimes very valuable; as they will have grown too strong and hard to be brought back without breaking, though it might have been done sooner with great ease.

I shall here speak of the blight, which term I shall explain, as it may not be understood by every body. This disorder is very common in our climate, and is the effect of noxious winds, that curl up the leaves, which become thick, yellow, red, and scabby. This is very disagreeable to the eye, as well as injurious to the

the fruit, for the blighted leaves exhaust all the sap at the expence of the fruit. When your trees are struck with this blight, you must not only take off all the curled leaves, but also cut off, below the disorder, all the infected shoots which form a rough and disagreeable thicket. This enables the sap to push out new shoots lower down, which will be equally good for the next year. Observe however, that if the tree is infected all over, which is sometimes the case, and there remain no healthy leaves to cover the fruit, some of the blighted ones must be left for that purpose, till it has put out some new ones. If this is neglected, all these infected leaves waste the sap, and prevent it from producing others; they will soon dry up and fall off, and your fruit, which is yet tender, being uncovered, is scorched by the sun, withers, and drops; so that there will not be the least appearance of fruit remaining.

The ants and vine-fretters sometimes cause the same disorder, and the same remedy must be applied; but these insects are generally more eager to destroy the eyes, and the sap cannot make any farther progress. The remedy for this may be seen in the twelfth chapter.

If the gum has attacked a shoot, it must be cut off an inch below, by which you stop the communication, and prevent it killing the whole shoot. It will soon push out one or two more, and have no bad consequences.

The last advantage that results from rubbing off the buds, is, that the time employed in it is sufficiently compensated when you come to lay them in, for you will then have very little to cut out, or any thing material to attend to; every shoot that was left, points out the place it is to occupy; it directs itself as it were, and there is nothing to do but to tie it. This forwards the work so much, as I have experienced more than once, that it does not take more time to tie three of these trees, than is required for one when the buds have not been rubbed off.

In the mean time, though this may have been done with the greatest nicety, you must not forget to review them every eight or ten days, in order both to bring back the shoots which have since slipt behind the treillage, and to destroy insects, especially snails, which are always at work after rain, and in the dew of the morning. At the same time, you will see what damage the gum has done, and remedy it. This takes up some hours, but they will be well employed.

When you are master of your own time, it is better to divide this work into two; in the following manner. In the beginning of April I rub off all the ill-placed buds, that is, the foreright ones, and those behind the shoots, and at the end of May, when the fruit is set, I finish the rest. Every one will do in this respect as his time permits.

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There is however some variation to be made from the rules I have here laid down, according to the different ages of the trees. Those of the first year's planting I go over, for the first time, about the latter end of April. I rub off all the buds that have pushed out before and behind the stem, and leave none but those on the sides; and when it happens, that one side has pushed out more than the other, I pull off the buds from this, to throw the sap to the other. At the end of May I look them over the second time, and if I find one shoot much stronger than the others, I either cut or pinch it.

I practise nearly the same thing for the first three or four years, but with this difference, that if the tree is very vigorous, I do not unload it near so much as one that is weaker; for I only take out from the strong shoots that were left at the first rubbing off, all the ill-placed ones, preserving all that come out from the sides, at least as many as I have room to lay in.

As to the old trees, I not only take off all that are ill-placed, but even all those that are of a certain degree of weakness, in order to strengthen the rest. I confine myself to a small number of the best shoots, and leave but little fruit. These should always be done after the others, as they shoot later.

I shall not say any thing of trees that are in their prime, as all the directions necessary for them will be found in the beginning of this chapter.

C H A P. IX.

Of the First Time of laying in the Shoots.

THIS operation on Peach trees should be begun in June, either sooner or later, as the season is more or less forward, and consists in laying in, and fastening in a regular manner, the new shoots to the treillage.

When the rubbing off the buds has not been neglected, this is the most simple and easy of all the operations in pruning. You have scarce any thing to cut out, no choice of shoots to make, no fruit to thin, or very little; and in short, nothing to do, but to fasten the shoots. The whole art of this consists in laying them at proper distances from each other, in extending them well, and making them fill up their proper places, that the tree may be full throughout. Besides this, you must observe to cover the fruit with leaves as much as possible, which contributes to increase both its flavour and size.

You must be careful never to cross the shoots without an absolute necessity; a vacancy being the greatest defect in a Peach tree, the filling

that up is the only excuse for it, and the least of two evils should be chosen.

You should preserve one or two of the small shoots that come out between the leaves of this year's branch, and chuse the lowest, because it is often better to prune upon these small ones the next year, than upon that which produces them; for, on account of its too great strength, or for want of fruit-buds, it is often necessary to cut this out; and when the tree grows too high, these stronger ones should be cut down to the small ones, to strengthen the rest.

The small green rush from the marshes is the most proper for tying the shoots; that of Marseilles, though it be soaked in warm water, is too hard, and bruises the young shoots. Besides, as it is not so pliant as the other, it does not tie so fast, the work cannot be done so quick; and moreover, it spoils the knives. Straw, or sedge, which some make use of, has an unpleasing appearance, and ties the shoots very ill.

These are all the particulars I had to offer, relating to this operation, upon a supposition that the buds have been rubbed off. If they had not, I should have every thing to say. In that case, it will now cost you a great deal of time, pains, and precaution, to do all that might have been done a month sooner with great ease. You must in some measure penetrate into this confusion, and break through the obscurity, to determine what is necessary to

be taken out, as well with regard to the wood as the fruit. I cannot even think of such an undertaking without trembling, and therefore refer the reader to the preceding chapter. He will judge of what should be done by what has been omitted. He should always be guided by the same principles; he will meet with the same causes, the same objects, the same inconveniences. Whoever finds himself in this state of perplexity, must do as little mischief as he can.

C H A P. X.

Of the Second Time of laying in the Shoots.

AS the sap is continually in motion from the month of February to the month of September, it is necessary, a month or six weeks after the first laying in the shoots, to repeat that operation, which is now much easier.

If the buds have been rubbed off, there will have been very few new shoots made; because those that were taken out, having been nipped in their birth, the sap has not been able to push out any more at the same places, and is all carried either into the shoots that were laid in, or into the fruit. If the buds have not been rubbed off, it is common to find false shoots put out from the bottom of those that were cut at the first time of laying them in. You must therefore break them off with your thumb, if they

they are tender enough not to require the knife.

If new shoots are pushed out, in any other part of the tree, that are useless or badly placed, (which they generally are) you must take them out; but observe, not to take out any with the thumb, but what will break off easily; for if the wood has begun to harden, you will damage the mother branch, and the gum which will issue from the wound will kill it. Cut them out therefore as close as you can.

If any of those which were laid in the first time near to a vigorous shoot that was shortened, is also itself become too luxuriant; by the abundance of sap thrown to it, (and this often happens in vigorous trees,) you must take out such shoot entirely, or at least shorten it down to the lowest of those it has produced. You have now nothing more to do, than to fasten the shoots that have grown longer since the first operation, and to cut down those rather below the top of the wall, that have run above it.

There are trees so luxuriant sometimes as to require this work to be repeated a third time, in the month of September. If it is thought necessary, it should be done, and in the manner I have described.

C H A P. XI.

Of uncovering the Fruit, and the proper time to gather it.

ALthough it has hitherto been necessary to keep the fruit covered with leaves, till the time of its ripening, that it might not be exposed to the violent heat of the sun; it now becomes necessary to lay it open, in order to perfect its flavour, and to give it that beautiful colour, which is its chief ornament. But as it would be dangerous to expose it too suddenly, it should be accustomed to it by degrees, that is, at three several times.

You should begin to uncover your fruit when it is just turning, or changing colour. A few leaves should be taken off, either to the west or to the north, according to the aspect of your wall. Three or four days after, a few more may be taken off from the opposite side, and in about the same time again, those in front; so that at last they will be quite uncovered, and lose nothing of the sun. Soon after this, they change colour, ripen, and you gather them when they are turn'd yellow, on the side next the wall, where the sun cannot penetrate.

You will see at a glance when they are in this state. Those that are not, should be
taken

taken off without violence, by taking them full in the hand, and pulling them gently to you. If they are quite ripe, they will come off in the hand ; but you must avoid squeezing them with the thumbs, to try if they are ripe, as is practised sometimes ; for this wounds and bruises them very much. This is the time to be observed, if you would eat them in perfection ; but if they are gathered for sale, or to be carried some distance, they should be rather harder, when they do not come off the tree so easily.

One material point to be attended to, when the fruit is uncovered, in the manner I have spoken of, is, that the leaves must not be torn off, but pinched with the nail near the foot-stalk ; for the violence used in tearing them, spoils and mangles the eyes of the shoot, and prevents the fruit-buds from forming themselves for the next year.

C H A P. XII.

Of the different Insects that damage the Wood and Fruit of Peach Trees, and the remedy to be applied.

THERE is a sort of green caterpillar, which eats the flower-buds before they open. As soon as you perceive this, you must look

for, and destroy them, for they will certainly be found behind some of the shoots.

The wood and field mice, the rats and house-mice, and the lesser dormice, animals of nearly the same fur and shape, are the greatest nuisances to Peach trees. They sometimes do great damage to a whole plantation, by beginning every peach, before you can gather one. If they would keep only to those they begin, it would be more sufferable ; but they try them all on the side next the sun, as fast as they ripen, and they are consequently all spoiled. There are two methods of destroying these animals. The first, by traps of different sorts, with which the wall should be furnished, at certain distances from each other, especially next the trees, which begin to ripen their fruit, taking care to look them over every day, and now and then to change the baits. But it is best not to wait till the fruit ripens ; for they are much less greedy of the baits when they have fruit to eat, than when they have none.

The second method, which need not preclude the use of the first, is to stop up well all the holes in the walls, as well without-side, as within ; for when they are driven out of their harbours, they do not increase, at least not in the same place, but are forced to seek some other habitations, and if the breed is not totally destroyed, it is at least very much thinned. You may also lay some arsenic, mixed up with flour or minced meat, along the coping of
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the wall, but great care should be taken, that no accidents happen from it.

It would be happy could we but find as easy remedies against the ants. These little insects entirely ruin all the trees they attack with vigour, and it is not possible to guard against them. The number of them may easily be lessened, of which there are many methods, but I believe it is impossible wholly to destroy them; and if it was true, as it is pretended, that they are to be driven away by means of some drug, to which they have a great antipathy, I am clear, from my own experience, that the evil would only change its object, for they will go further off, and fix upon some other tree. This I have seen happen sometimes, though without being able to account for it. We must therefore pursue such methods as are practicable, and be satisfied with thinning them as much as possible, in order to lessen the evil. Of all the methods I ever experienced, the following succeeded best. I procure the foot of an ox fresh killed, and flay the skin half off, without stripping it entirely. One of these I lay at the foot of every tree that is infested with the ants, placing beside it half a pail of water. The smell of this draws the ants from all parts, so that in a little time it will be quite covered with them. I then take it up gently, and drown them, by flinging it into the water. It should be taken out again immediately, and replaced as before, and
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in a few hours the same effect will follow ; so that this may be done five or six times in a day, and will destroy a great number of them. In a few days the foot may be changed, when the sun has dried it up, and it has no longer any smell. But I must observe, this method does not answer, unless the weather is a little warm ; for upon trying it in the spring, the ants would not fasten to it.

It is necessary to make some allowance for what I have said, of the impossibility of guarding Peach trees from these wretched animals. This is not to be taken in its utmost extent with regard to any but dwarfs, for it is possible to defend the standards and half standards, and my method is as follows. You immediately unnail the tree that is attacked, and if the stem will bend a little, you shake it several times, till you see no more of these insects remaining upon it, and brush them off the leaves with your hand. You must then have the patience to pull off all the leaves that are infected with their eggs, and with the vine-fetter, which is inseparable from them. This being done, you keep the tree about a foot from the wall with a forked stick, which will hold it steady in any position ; above this stick you make a little basin with soft wax, all round the stem of the tree, and fill it with water, which must be replenished as fast as it evaporates : By this method, the ants, who cannot swim, retire at the sight of the water, and the tree
may

may be replaced. In doing this, you should be careful to put behind the tree two or three laths, to keep the branches in their places, which the wind and the load of fruit will otherwise break down, observing to tie the shoots to the laths as secure as possible.

Another expedient is sometimes used, instead of the bason of soft wax, which is, to tie some cotton or tow, dipped in oil, round the stem of the tree; oil of spikenard is the best, but for want of that, olive oil will do, though neither of these are a certain defence against these insects, yet it often drives them away. The tow must sometimes be refreshed with oil.

The ants are also very destructive to the orange trees; and in Italy, where the greatest part of their walls is covered with them, this fruit being more agreeable to their climate than any other, they practise the following method, which I took notice of in the garden of a curious person at Naples. The trees were planted a good foot from the wall, each tree being upon a single stem about a foot and a half high. Upon the same line with the trees, oak posts, of about four inches square, were fixed in the ground, at ten feet apart; these were made of the same height as the wall, in order to receive a treillage, in the fashion of that country, which, though it differs from our's, is intended for the same use. The trees were planted between the posts, and kept low,

low, in the same manner as we train them upon our cross or dwarf walls. Upon the stem of every tree, and upon every post, this cotton dipped in oil was tied, as I have before described. The good effect of this remedy appeared from the beauty of the trees ; and the owner of them assured me, that the ants had never touched them since they were first planted, though I saw others some few yards distant, planted against the wall, that were infected with them.

Nothing would be more easy than to train up our Peach trees in the same manner ; but in defending them from one evil, I am afraid they would be exposed to some other, and perhaps a worse. Our climate is very different from that of Italy ; the cold winds that would draw in between the tree and the wall, might be very injurious to them : besides, that the fruit being deprived of the reflection from the wall, might ripen later, and therefore have less flavour. Whoever finds his trees very much pestered with these insects, might try this method upon a few fathoms of wall ; at all events, the hazard or expence cannot be great.

The bugs often attract the ants, and therefore you must take care in the winter, to scrape clean all the shoots, when they lay their eggs, with a wooden knife. This is absolutely necessary to be attended to.

The slugs and snails likewise eat our Peaches, and especially the Violet, of which they are
very.

very greedy; but they may be destroyed, if the trees are looked over very early in the morning dew, or after a gentle shower.

The birds too are curious enough to taste them, particularly when any insect has begun them. These are easily driven away with scare-crows, and when they fail to have a proper effect, a boy may keep them off, by walking along the wall. If that does not answer, the following is a method I have lately seen practised by a curious person, though I have not tried it myself. This is, to stretch all over the tree, about six inches apart, lines of red worsted, which it is confidently said, keeps them off, by some unaccountable antipathy they have to it. This method is also said to preserve grapes; it is easily tried, and will cost little.

It is much more difficult to guard them from earwigs and wasps, than from other insects. These are two enemies that sometimes do great injury to this fruit, especially to the Little and Gross Mignon, which is one of the first that ripens. There is no better method of defending them from the first, than keeping the wall well plaistered, that they may not find harbour; but if, notwithstanding this, they are troublesome, you must fix behind the branches some sheeps horns or pigs hoofs, into which they retire, and you shake them out, and destroy them every morning. As to wasps, they may be destroyed with bottles half full

full of water, sweetened with honey, in which they will drown themselves ; but this is a trifling relief, and there are many other expedients equally ineffectual. What has always appeared to me to be most useful is, to place here and there in full view upon the treillage some Peaches that are partly eaten, or some other fruit of a sweet kind, either plums, figs, or pears ; they will stick to those that are within their sight, and never attack the whole fruit. It will of course be understood, that as fast as these are eaten, they must be supplied with others. A great many might be destroyed at several times in the heat of the day, if you have courage enough, by seizing them a handful at a time, when a great number of them are got together upon the half-eaten fruit, and squeezing them to death, for which you must be defended with an ordinary glove, if you would avoid being stung.

C H A P. XIII.

Of the Precautions to be taken during the Heats of the Summer.

IN good soils, more particularly where the bottoms are wet, if your borders have been kept clean, and there has been no extraordinary drought, there is nothing to fear, and very little to be guarded against ; but in hot
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and sandy soils, the drought often kills the trees, or at least renders them very sickly, and the fruit they bear has neither size nor flavour. I advise those who are so unhappy as to be situated in these kinds of soils, to throw down three pails of water every fortnight at the foot of each tree, and to rake the ground over a few hours after ; at the same time, a good armful of long litter may be thrown upon it, to keep in the moisture. I also advise straw to be wrapped round the stems of the trees, and tied with osier ; this will preserve the trees, and the good effect of it will appear in the fruit. In the southern countries the tree should be covered with mats during the greater heat of the day, otherwise the sun scorches the fruit, and soon kills the trees.

C H A P. XIV.

Of covering the Trees.

THE delicacy of our Peaches, or more properly speaking, the great fear we have of losing what is so very valuable, has obliged us to have recourse to all possible means of defending them from the injuries of weather ; but after having, like other people, tried every one, I affirm that I have found them all deficient. However, that which I shall mention is
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a good one, but is so expensive, it will suit but very few.

There are some who, when the trees are in blossom, which is the critical time, cover them with *Pease-baulm*; but this is a very bad expedient, for it is generally put either too thin or too thick. If it is too thin, it neither defends them from the frosts, nor from the sun, which does most damage after a frost; if it is put thick, it may indeed keep them from the frost or the sun, but it is attended with a great many inconveniences. The dangerous time lasts about six weeks, during which your tree, smothered under this covering, but still giving way to the force of nature, puts out shoots as well as blossoms, and the fruit sets. But how does it shoot? Like endive in a trench; that is, the leaves and fruit are more white than green; and when you uncover them, at the end of April or beginning of May, half the young shoots, which are twisted in between the *Pease-haulm*, will be torn off along with it; the fruit too being tender, and not capable in this country of bearing the least cold air, or the least degree of sun, dies, and falls off. Thus end in general all the pains you have taken.

Others make use of a kind of covering, which is made two different ways; one with packthread, or gut; the other with the same wood as is made use of for the treillage.

The first are very bad, as I can say from my own experience. First, they are hung too
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near the tree, and when shook by the wind, they rub off half the blossoms and buds, without reckoning those that are destroyed every time they are taken off and put on again. Secondly, the fruit becomes too tender under these coverings, and has not air enough; so that after having been accustomed to this, when they are first exposed to the least air, (if the coverings are neglected to be put on) they die; and this requires a constant attendance. But even supposing this method would have the desired effect, if it was put in execution with the greatest nicety, who could depend upon the care of his gardener, so as to be sure, that during the hazardous season, he will not once forget to cover and uncover the trees at the proper time? This consideration alone ought to undeceive every body; for it is very clear, that one hour too soon or too late will kill all the fruit.

The coverings made with lattices and wire, are of a better sort, since they do not touch the tree, and the blossom has air underneath; but they have also their inconveniences. You must have them of the height of your wall, and they must extend from one end of it to the other; for if you only put one here and there, it will answer no end.

The trees will receive as much injury from the draught of wind along the sides, as they would by being exposed to the frosts; and to cover a long wall from one end to the other,

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requires a great number, which is indeed very expensive. A covering of nine feet long by four broad, which is the common size, reckoning every thing, comes to near 20 sols, and lasts scarcely more than two years; the damage it sustains, by being carried to and fro every day, the injuries of weather, and the spoil made in it by the mice, whilst it lays by, all help to destroy it. Besides, it is a great deal of trouble for a gardener to put up and take down, twice in a day, or sometimes oftener, such a quantity of coverings, which are not easy to remove, when they are soaked with rain, or covered with snow. It causes too a great deal of wet and mud at the foot of the tree, and you can hardly make use of your borders to raise early pease, spring lettuces, or any other legumes. Moreover, they require the same attendance as the others, to put them up and take them down at the proper times. All things considered, it is an expensive method, and certainly does more harm than good; so that I do not recommend this more than the other.

I think curtains of coarse cloth, or glass frames, are more useful, and very different from the others; since little time is required to open and shut them, they are managed with less trouble, and without any of the inconveniences to which the coverings are subject; in fact, the fruit has air, it is not battered, and is sheltered from all injuries of weather. If
glass

glass frames are used, the fruit ripens three weeks sooner than common; but these methods are very expensive. The curtains may be carried off in one night, if they are not watched; the glass frames are often very much broken by wind and hail, and it requires a great deal of labour and expence for a carpenter to put them up and take them down every year. They are not proper therefore for any but those who are able to bear the expence, and who will spare nothing to gratify themselves.

Somebody endeavoured to persuade me some years since, that by laying litter at certain distances all along my walls, and setting fire to it early in the morning, during the frost, the smoke that it made would prevent the cold from nipping the blossom, and the fruit when set, and that it would at the same time take off the violent heat of the sun, which scorches after a frost, and certainly preserve my trees. I thought the advice was rather plausible, and made trial of it; but I suffered for want of considering it; for we should always proceed upon some principles. Now, as it is well known, that the frost never takes hold when the wind blows, the danger is only when there is none, and therefore the smoke cannot have the effect intended, which is to spread itself like a curtain all over the trees; instead of this, it ascends as in a chimney, and is of no use. This was exactly what happened with me.

From all I have said, the reader will undoubtedly conclude, that I have not informed him of any means to defend his trees from the injuries of weather. I allow that I am not capable of doing this; but as my design is only to undeceive him with regard to the bad methods by which he may suffer, my observations may claim some merit. For want of a certain expedient, (for I know of none,) I shall mention one that I constantly make use of. The first idea of it was not mine, but I think I have in some particulars very much improved upon it.

Mr. Girardot, a musketeer of long standing in the service, so well known for his beautiful plantations at Bagnolet, and by the immense profit he made of them, is the inventor of this method, since used by many of the inhabitants of that neighbourhood. He fixed pieces of wood, which projected about two feet all along the wall under the coping, at the distance of a toise apart. Upon these he layed planks when the hazardous time came on, pretending that the spring frosts came in a perpendicular direction, and that, by covering his fruit at the top, it was in no danger, either from the frosts or the cold rains, which are equally injurious to it. This he constantly practised, and others after him have proved the success of it. The same way he has chalked out may be boldly followed, and this I have done, though with some difference. Instead
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of these pieces of wood, which remain fixed in the wall, and make a very disagreeable appearance all the summer, I use little crutches of light wood, the tops of which are made sloping, to drain the water from the coverings that are laid upon them; these are tied with osiers to the top-piece of the treillage, six feet apart; and instead of planks, I made, in imitation of the people of Montreuil, small mats, about two feet broad by twelve and half long, bound together by two laths. In the month of February I place my mats upon the crutches, and tie them with osier. Here they remain till the month of May, when they are all taken down, and carried into my garden-house. This takes up but two whole days, and the expence is very little; these coverings are certainly good defences to the fruit, though not so as absolutely to insure it. This is all I can advise, and for the rest we must trust to Providence. The Peach however is not so very tender as it is thought. I have twice seen the buds of pears, plums, apricots, and cherries, killed with frost, when the blossom of Peaches suffered but very little, which may be depended upon for truth.

This last expedient that I have just mentioned, cannot be used but where there is a treillage, another inducement to learn the still greater advantages of it.

C H A P. XV.

Of the Distempers of Trees.

THE chief distemper that Peach trees are subject to, and which is without remedy, as it has no name at present, is known by all the shoots, the leaves, and even the fruit, turning black and clammy. This is a kind of leprosy, which is contagious, and communicates itself to all that surround it; and if care is not taken, as soon as the tree is attacked, to have it pulled up, and the wall washed with lime, which itself contracts the evil, and turns black, your whole plantation will die, one after another. I cannot account for the cause of this distemper, but the common opinion of its being the bug, does not appear to me probable; or if it is partly owing to that, there is some other co-operating cause. It may be caused by unwholesome blasts, which strike more in one place than another, or a stream of corrupted air, the bad habit of the tree, or the violent gleams of heat after a fog; in short, whatever be the cause, the evil is certain, and we must be contented to stop the progress of it, by rooting out the tree immediately.

The second distemper that most affects our Peaches, is the gum; for which neither is there any remedy. If it only injures some

few branches, and the rest are worth preserving, you must endeavour to keep in those that are good, but if it extends to all parts of the tree, you must pull it up, and plant one of a different sort in its place. The Red Magdalene and the Violet suffer most; and if you find you cannot raise them, they must be given up.

The mischief done by ants is also one of the greatest evils incident to Peach trees. I mentioned every thing I know upon this head in the ninth and twelfth chapter. I shall only add, that if they continue upon the same tree two or three years successively, the shortest way is to pull it up; for they will never leave it till they have killed it; and a new scheme of destroying them may not always succeed, especially if the tree is a different sort.

If a tree grows sickly, and you cannot account for it, lay the earth open, and examine the roots. They are sometimes eaten by the May bugs, which is common to young trees; and in this case, you must seek them out wherever you find the roots eaten. Sometimes the red ants attack and canker them; the only remedy for which is, to destroy as many as you can. Scrape the roots well, and throw away the infected earth, replacing it with fresh. If the mischief proceeds from some roots that are damaged and rotten, they must be cut off to the quick, and filled up at the same time with fresh earth. By this care the

tree is restored ; but before you make up the ground, try whether some pails of water will not revive it, if it happens to grow sickly in the height of summer.

In the months of June and July honey-dews sometimes fall, which greatly injure the trees as well as the fruit. There is no other remedy for this accident, which cannot be prevented, than to shorten the shoots, and they will push out others, from the lowest eye, which are sometimes healthy, but sometimes inherit the disease ; however there is no danger in making the experiment.

The last disorder common to all trees is old-age. This is known by the yellowness of the leaves, by the weakness of the shoots, and by their throwing out the fruit very small. If you could renew the tree, by means of some good shoots that it may have pushed out from the bottom, you should head it down to these young shoots, or you may soon restore it by those that are come out of the sides, if you do what I shall advise in the next chapter.

If it is cut down to the large branches, which is practised by some, it seldom puts out new wood. The sap forces itself with difficulty through the bark, which is harder than that of any other tree. Manuring and changing the soil will answer no end ; the tree has done its business.

C H A P. XVI.

Of the method of new planting an old Espalier.

I Recommend it strongly to those, who would make new plantations, to reserve a few plants, for a supply upon occasion. The gum, or some other unforeseen accident, kills a tree sometimes, when it is least expected. Nothing is more disagreeable, than to see a gap in a plantation, which must therefore be prevented, by planting in any exposure, about a dozen trees of the same sort of fruit, as you have planted against your treillage. These should be labelled with pieces of slate, tied to each tree, or to the treillage; and when any one fails, you take one of the same sort, to supply the vacancy. If they are carefully taken up, they will strike root perfectly well, though they be four, six, or even eight years old, which I have very often experienced. The caution to be used in this, is to make a little trench all round the tree you intend taking up, at about two feet and a half distance from the stem, and three feet deep, by twelve or fifteen inches wide. When the trench is made, you uncover the roots by degrees, and that they may not be injured, you use a pronged fork, such as is used in the vineyards. You then gently take away the earth from the right
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and left, till the roots are loosened, and you find the tree comes up easily. If it hangs by any large root, you must cut it off as deep as you can. As soon as it is taken up, you carry it to the place where it is to be planted, and having tipped the roots, and pruned the shoots very short, you set it to the height of the others, or rather six inches higher, because the ground that has been just moved, will sink so much in a few months after. The roots must all be well extended to the right and left, and whilst one man throws in the loose earth, another should be in the hole to settle it to the roots with his hands, and take care that they are not entangled with each other. You then fill up the hole, and throw over it three pails of water, which settles and binds the earth to the roots. If you observe all these particulars, you may depend upon it, by the spring it will make as good a figure as the others, and you may even gather fruit from it, though it should not be suffered to bear too much. Take care during the hot weather, in the following summer, to water it from time to time, and move the ground about it afterwards. You may also for better security, throw an armfull of long litter round the stem.

This transplanting should be performed about the beginning of November, and it is generally thought right, to cut out a good deal of the wood.

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If you have not had the precaution to make this little reserve of trees, and are obliged to replace your old trees with young ones from a nursery garden, you should pursue the method of planting I have laid down in the third chapter.

All that I have here said, should be understood to relate to young trees only, for old ones must be treated entirely in a different manner. You must make the most of these old trees as long as they last, and have others ready to succeed them, when you see they approach near their end. For this purpose, young trees should be planted in the spaces between the old ones, observing when they shoot, to lop off all the branches of the old trees that may shade them, and prevent them from spreading. When they begin in four or five years to make a shew, you pull up the old ones, and you find a new wall of trees. It is by this means the trees at Montreuil succeed each other without intermission, and are formed perfectly well. However it is not to be expected that they should succeed as well every where; for the soil of this village seems to have been created on purpose for this fruit. But the experiment should be made, and the rather that if they should not succeed in this method, you would have very little reason to flatter yourself that after having pulled up your old trees, and trenched up your ground, a new plantation would succeed better.

C H A P. XVII.

Of Tillage.

EVERY one knows that weeds exhaust the ground, and impoverish it. They cannot therefore be too carefully destroyed; and that is the first reason for digging round all sorts of trees. Secondly, they are disagreeable to the sight. Thirdly, they harbour insects which are communicated to the trees and fruit. Fourthly, they dry up the ground. Fifthly, they prevent the gentle showers, from penetrating easily and usefully: In short, all ground that is not moved, cracks in dry weather; and the heat of the sun, penetrating through these clefts to the roots of the trees, injures them greatly.

For all these reasons wall-trees cannot be too much cultivated. They should be well dug in the autumn, and again in April; and in the summer, the ground about them should be moved with an hoe or rake, as often as is necessary. This should be done in fine weather, that the weeds may soon wither and die. The digging at this time of year is not so proper, as it disturbs the roots and gives them too much air.

C H A P. XVIII.

Of the propriety of laying Dung to Peach Trees.

OPinions are much divided upon this head, and every one has reasons, which appear to him sufficient to confirm his opinion. Mr. De la Quintinie, expressly forbids all sort of dung; and after endeavouring to prove by specious arguments, and subtile comparisons, that it can be of no service to the trees, he gives you reason to fear that it may injure them. I have the highest respect for this great judge; but whether he was liable to prejudice, as every one is, or whether the soil of Versailles, where he exercised his genius, has the peculiar quality of not requiring any foreign assistance, yet his opinion cannot prevail against the experience of a thousand people, who always make use of dung, and entirely approve of it. The sentiments of a few particular persons are not to be relied on, since opinions are so various, and there are a great many, who pronounce rashly on the contrary side, and that rather from their prejudices, than from any settled principle; but I maintain that the practice of a whole country, the inhabitants of which, from father to son, for a long time past, have made the management of wall-trees their sole employment and trade, is sufficient to determine it, and

and establish a rule for us. The general custom of the inhabitants of Montreuil, Bagnolet, and other neighbouring places, is to lay hot dung to their trees every three years, that is, to those of a certain age, which begin to be exhausted with bearing; for the young ones which shoot vigorously, do not require it. The dung might damage them, and prevent their setting for fruit. Those that have had no dung shew an apparent difference; and they themselves own, that their fruit loses a great deal of its quality and size. It would be absurd therefore to contest a fact, that has been proved by so long experience; and a supposition that their ground may want assistance, which other land does not, would be still more idle. They have in their district, which is very extensive, some soils very strong, others light, and others gravelly, some sheltered by hills all round, others situated in a plain. The dung has the same effect upon all; and it must be supposed that they are well apprized of the necessity of it, for if they had the least doubt about it, they would not be at the expence, which is a principal object.

Certain persons who are prejudiced in their opinions upon this head, but who are obliged to allow the good effect of dung, since it is so apparent, retract (as I have sometimes done,) their opinions in part, and insist, that though dung increases the vigour of the trees, and size of the fruit, yet it takes from the flavour, as
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it does from that of wine ; but this reasoning is erroneous, as I am clear from experience. I have found on the contrary, that the fruit which had been dunged, had more juice, (I don't say more flavour) and more delicacy than that which had not, and it was because it was better nourished.

As to the sort of dung, you should procure, if you can, that of horses, mules, or asses, both because it warms the ground at the same time as it imparts its salts, and because it makes it lighter and easier to work. On the contrary, cows dung is much the best for hot and dry soils ; it enriches them, and keeps them fresh and cool. It should be turned in, in the month of November ; for, in the following months, the frosts often set in, and it is then too late. In the spring following, when the trees are dug the second time, the dung which the spade brings up to the top of the ground, should be buried again at the bottom of the trench.

I should mention here, that if your borders are only three or four feet broad, as they too often are, your trees will receive very little benefit from the dung ; for it does not act upon the great roots, but upon the fibres, at their extremities. It should therefore be laid at some distance from the body of the trees, in proportion to their size. All that is laid close to the body is entirely lost, and may sometimes injure the tree, either by cankering the roots, if it lays upon them, or by attracting different
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insects, which will kill them. It appears by this, how absurd it is, to lay open the ground about the trees, to dung them at the foot; for besides the inconveniences I have mentioned, the dung so laid forms a sort of bed, which growing hard, prevents the rain from penetrating. It would therefore be much better, not to dung them at all.

Those whose borders are so narrow, ought not to hesitate about enlarging them to six feet at least, if they intend their trees shall reap any benefit, either from the dung or cultivation. They are sometimes with-held from this, upon account of a row of grapes, which serves as an edging for the border, and which they are unwilling to destroy. But in this case they need only leave one long shoot to each vine, and lay it the next year two or three feet farther into the walk. In the autumn it is separated from the vine, and the old one pulled up, by which no profit is lost, a new plantation is formed, and the defect I speak of remedied.

It now remains that I should make the advantage of dung appear, from the experience I have had of it these twenty years. I practise it, not only for my wall-trees, but for all other sorts, except some few, and those that are grafted upon free stocks, which shoot strong enough without it. This method has always succeeded so well with me, that I do not conceive how the utility of it can be disputed. The fruit I gather in the years I dung, is increased

creased one third in size, and that is sufficient proof. Moreover, they should be dunged more or less often, according to the quality of the soil, and the burden of fruit the trees have produced. It is sufficient for some plantations once in about six years, while others require it every three, four, or five years.

C H A P. XIX.

Of the Carriage of Trees into distant Countries.

THE life of a Peach tree, like all other plants, depends upon the moisture that is dispersed through all parts of it, and so long as the moisture remains, the tree is alive. The point then is to preserve it, by preventing the air and sun from drying it; for when a tree is pulled up, it has no longer the same resources as a rooted one, which is continually sucking up the juices of the earth, in order to repair the losses that the outward parts sustain from the sun and air. It must now subsist by itself, and you must take care that it loses nothing; the following precautions for this are therefore to be observed.

As soon as the trees are taken up, shorten the roots a little as well as the head, form them into bundles of twenty, or at most twenty-five trees each, if they are dwarfs; or of twelve, if they are standards; lay the roots carefully
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upon

upon each other, spread straw between the bodies, that the bark may not be rubbed off, and tie the whole with osier; you then put fresh moss between the roots, crowding in as much as you can, till they are all entirely covered. Over that you should put some long straw, which is bound fast all round with cords, and the bodies of the trees must be wrapped up in a good thickness of straw, tied fast with the same strings. The last thing is, to put round the whole body of roots a piece of packing-cloth, well tied all round. Being properly packed up in this manner, you may send them into any country you please, and be assured, that if they are upon the road from the end of October till March, they will not die. I have sent some to Muscovy, and the farthest part of Italy, which have succeeded perfectly well. There is one farther precaution to be observed, when they travel a great way by land, and there is a great deal of sun and drying wind, which happens sometimes in the months of October and November; this is, to order the carrier to throw some pots of water upon the body of the roots from time to time; and on the contrary, if they are upon their journey during the hard frosts, to cover them with a good deal of straw, and even with rugs, if he can. When they are to go by sea, these things need not be attended to, because they will be then sheltered both from the drying winds and frosts.

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There is another and better method of packing dwarfs, which is, to cut them off a foot from the bud, and to place them very tight in a hatter's basket, observing before-hand to line the basket well with straw all round, and at the same time to cover the roots with moss, placing them one upon the other; and for greater certainty, you may cover the basket all over with straw, that you may be better satisfied as to the fate of them.

When the trees are safely arrived at their destined place, I should recommend the roots to be soaked in water two days before they are planted.

C H A P. XX.

Of the Manner of raising and budding Peach Trees.

I Have already observed, that there is a great deal of trouble, and little advantage, in raising young trees in the neighbourhood of Paris, where a great number are at all times to be found, and at a cheap rate. But as every body is not within reach of Paris, and the trees being often packed in a careless manner, when they are to be sent to any considerable distance, notwithstanding all the directions that can be given, and as it costs at least a great deal of suspense and uncertainty, it is a good way to raise them yourself, that you may have them

when they are wanted, and that you may be more certain of the sorts. I therefore advise all those who live at a distance from nursery-gardens, to make a small one of their own, proportioned to their necessities.

You should begin by preparing your ground, which should be in a good soil, and trenched up about two feet deep: It would be proper, if you can, to let it lay a year before you convert it to a nursery, and give it some hoeings during the summer.

The Peach is budded upon three sorts of stocks, as I have mentioned in the third chapter; upon its own stock, upon the almond, and the plum. The first is now seldom used, (though the bodies of these trees are much finer than those of the others, and the tree more vigorous,) because it is too subject to the gum. The two last should be chosen; and every one will prefer that which best suits his own soil.

The almond is the best for light and gravelly soils, and the plum for all others; but I shall not repeat the reasons I have before given.

The following is the method of raising the almond. You should carry into a vault, or good cellar, a small cask or tub, proportioned to the number of plants you would raise. In this vessel you put two inches of fresh and rich sand, and upon that a laying of almonds, at an inch distant from each other, with the points downwards; upon these a second laying of sand
of

of two inches, and upon that another of almonds, till your vessel is full. This is done in November, and in this situation they continue all the winter. In the spring following you take the almonds out of the sand, and put them in the ground that you have prepared, at eighteen or twenty inches apart, and about four deep, which having begun to shoot in the sand, very soon come up out of the ground.

This however is not the general practice; many do not put their almonds in the ground till the month of January, not desirous of their being so forward, and instead of covering them up, they leave them in the open air in tubs, exposed to the sun, with the caution only of covering them in the hard frosts. Others put them in later, and steep them two days in warm water before they plant them, in order to dispose them to shoot. Others again sow them in their gardens along a border, in a good aspect, and cover them in the frosts; but they run great hazard of the mice and crows destroying numbers of them, if they are at all troubled with these animals. Every one follows his own opinion in what regards his own business, but great allowances should be made for the soil and climate. The essential point is the certainty of the almonds growing, and that they are not too far advanced when they are to be put out in the month of March; for notwithstanding all the care possible, a great many of the young sprouts, which are very

tender, will be broken, in taking them out of the ground, when they have shot too long; and though they are not broken, they are very subject to die after being planted out.

In short, when they are to be put out, you should plant them by a line, so as to leave two feet and half, or three feet, between the rows, for the convenience of going between them, and the ease of hoeing the ground in the summer, for all weeds should be carefully destroyed.

I said in the first edition of this work, that the tender almond of Provence would succeed better than any other, having really observed, that the Peach bud took upon it perfectly well, and made very fine shoots; but, since that, I have remarked, that this sort is more subject to the gum, and therefore I retract my former opinion.

At the end of August following, the shoots are strong enough to receive the bud, and you bud them at two inches from the ground, observing that the eyes of the branch, from which the bud is taken, are double, and accompanied with two or three good leaves; the single eyes that have only one leaf are never good subjects to bud from. The method of budding is so well known to every one, that I shall say no more upon that head; but only recommend, that the band is a little loosened the next month, if it is found to bind too tight upon the bud. I say, the band; but I ought
to

to explain, that it is better to use twisted tow ; which does not cut the bud, like cord or string, because it gives way, as the bud swells.

The following spring, when the buds begin to open, the binding must be quite loosened, though not taken off, and the stock cut down slanting, exactly above the bud ; the eye soon after pushes, and throws out its shoots.

The next October the Peach tree will be quite formed, and it may be taken up and planted in the place you design ; for it should not remain longer in the nursery, that is, not a second year, though it might remain all the winter till March.

What I have said, relates only to dwarfs. When standards or half standards are to be raised, the almonds should be suffered to shoot during three or four years, and their stems trained up strait, by tying them to stakes for that purpose. Care should be taken at the same time, from year to year, to cut off the lower branches ; but they should not at first be cut close to the stem. The first time you should cut them at some inches distance, and the year after quite close. The reason of this is, that stumps which are left may draw the sap, and make the root grow faster ; for the more it throws out roots, the more nourishment is drawn to the body, and the stronger it grows. But the sap must not be diverted too much, lest the leading shoot should not thrive, and grow away, which is the object in view. You should

therefore keep it of a moderate strength, that when it is arrived to a proper size, you may bud it at the same time and in the same manner as the dwarfs, four, five, or six feet from the ground, if the stem will permit it, and you judge it convenient.

Those that seem most inclined to shoot strait, are generally chosen for standards and half standards, and the crooked ones for dwarfs.

As to the plum stock, they generally get suckers or cuttings from some old stump of the damasine, which is very common every where; so that there is no difficulty in procuring them; and the cuttings of the top shoots of a tree that bears well, are as good as the suckers from * old stools that have been undermined and dug round for that purpose. They are pulled up in November, and immediately planted in the nursery, in rows, like the almonds, and at the same distances. They should be cut down directly to five or six inches, and remain two years, that is, till August in the year following, and then budded in the same manner as the almond, and planted out at the end of the year.

* It is a custom with many gardeners to dig round an old plum tree, and partly to undermine it, in order to force out fruit, and the cutting the roots asunder makes it throw out suckers.

If standards and half standards are to be raised, the same directions must be observed as for the almond.

I advise you to chuse the suckers of a plum called the St. Julien, to bud the Violet and Chevreuse Peaches upon. This is the only plum which suits these two sorts, the reason of which I shall not examine; it is sufficient that experience has convinced all those whose trade it is to raise trees about Paris, of the fact.

From what I have said upon this subject, it will easily be inferred, that all those who would raise Peach trees every year, should have a small spot of ground prepared one year under another, and observe, that the land in which they have been once raised, must not be applied to the same purpose again in less than three or four years, though it will be very good for grain or legumes.

To save those the trouble of calculating, who are desirous of knowing what quantity of ground any number of plants requires, fixing the distance of the rows at three feet, and that of the plants at eighteen inches; the perch of land of eighteen statute feet square contains seventy-two plants; these multiplied by 100, which makes an acre, gives 7200 plants *per* acre. In some provinces the perch is twenty and twenty-two feet, but this is of no consequence; it is enough to know how many a perch of eighteen feet will contain, and it is
easy

easy afterwards to know how to increase the number of plants in proportion to the increase of the perch.

C H A P. XXI.

Of the Method of making a new Plantation.

IN the course of this little work, I have mentioned every thing that may be most useful for the plantation of Peach trees; but in this I have only conformed to the usual customs. Since my first edition of this, the event has proved to me the good effect of a method which I had conceived a great while since, but of which I had not had sufficient trial to offer it to the public. My experience now gives me a right earnestly to advise it, and I dare affirm, that those who are willing to pursue it, will reap all the satisfaction from their plantation that the nature of the thing can admit of; but before I come to the point, it will be proper to make some observations relative to this practice, that the utility of it may be better understood.

The making a plantation must always be attended with some hazard, notwithstanding all the care that may be taken. The doubt as to the sorts, the uncertainty of the stocks they have been budded upon, the quality of the buds that are made use of, and in short, the fear

fear of the trees taking root, are four particular objects of attention.

The certainty of the sorts explains itself, and consists in having them true, and such as you require. It is in that you must depend upon the word of the nursery-man, and the order he has preserved in his garden, which may have been confused by various means. Few sorts can be known by the wood and leaf, as I before observed, and therefore nothing certain can be expected from the nicest precaution.

The uncertainty of the stocks upon which they are budded, is a second point, the importance of which is known to few people, though it is nevertheless a capital object.

With regard to the almond, I shall observe, that many nursery-men make no scruple of budding upon the bitter almond, because it shoots stronger from the bud than the sweet ones, and therefore answers better for sale, though to the buyer it makes a considerable difference; for this tree bears but very indifferently, and the sap is spent in producing wood; what fruit it does bear retains the bitterness, and is very small. This is an irreparable evil, which nothing can remedy.

Other nursery-men procure the smallest almond they can, and as this fruit is bought by measure, the less it is, the more there are in the * measure, and of course the less the seed

* *Boisseau*—Near a peck and half English.

costs them. But the consequence is, that the shoots they make are much weaker than those of an almond well grown, and the tree raised from it feels the weakness as long as it lives. It often happens too, that when the crops of almonds fail about Paris, the nursery-men have recourse to those of Provence; but I have experienced, that the Peach trees budded upon them throw out much more gum than the others, as I observed in the last chapter; and this no one can discover when the trees are taken out of the nurseries. Thus much with regard to almonds.

The same inconveniences attend the plum stock. There are a great many sorts of plums that produce suckers equally fit for receiving the Peach bud, but the quality of the fruit they produce is very different. You should be acquainted with those that are best adapted to each sort of Peach, though the nursery-men often bud indifferently upon all sorts of suckers, and sometimes without knowing them themselves; for they buy them wherever they can find them. From hence it sometimes happens, that the trees do not bear, or that the fruit is bad; and this defect is often attributed to the soil, which arises from the kind of stock it is budded upon. This is a rock against which it is almost impossible to avoid splitting; for there is no mark by which you can know them when they are taken up. There are besides other things to be mentioned concerning the
quality

quality and age of the suckers, which I shall speak of soon.

The choice of branches from which the buds are to be taken, is another point of great consequence in raising good trees ; and this is the third inconvenience I have to speak to, in which you may be equally deceived. The nursery-men, who have nothing more in view than to make their trees appear as beautiful as possible for sale, chuse the largest shoots they can of the trees from whence they are taken, because the buds are stronger, take easier, and grow more vigorous ; but these large shoots are generally rank ones, the buds of which undoubtedly throw out fine shoots. This however is their only merit ; for the trees they form spend themselves in wood, and produce fruit very late and in small quantities, for they always inherit the defects of the original shoots. Besides, these nursery-men do not take pains to procure the true sorts, though there is a great difference in the quality of two fruits even of the same sort : For instance, the Gros Mignon, if it is the true sort, is known by being almost round, by having an infinite number of little red spots on the side next the sun, and the opposite side being of a yellowish white. On the contrary, the false Mignon, which is nevertheless the most common, is more long than round ; it has no little spots, and is entirely green on the side next the wall. This difference in the outside would be of no consequence,

if

if the quality of it was as good as the other ; but it is so far otherwise, that it is nothing near so fine, so melting, nor so high-flavoured ; yet they are both generally called Mignons, though it is impossible to distinguish them in the nursery, nor can the nursery-man be depended upon, for having procured the former instead of the latter. He most commonly takes the shoots from his own trees as they come, or as he finds them elsewhere, and does not think himself obliged to attend particularly to these niceties. This accounts for the difference in the quality of fruit, which you find better or worse in your neighbour's garden than in your own, without perceiving the reason of it ; and the case is much the same with regard to all the other sorts of fruit, by which it may be judged, how little those that are bought can be relied upon.

In short, no one can promise himself that his trees will be adapted to the soil he plants them in, when he seldom knows whether that in which they were raised is nearly of the same kind or not. This is absolutely necessary for their succeeding well, though it is a point very few ever attend to. Every one however must be sensible, that in transplanting a tree from a strong soil to a light one, or from a light one to a strong one, such a change often causes them to be sickly, and sometimes to die, in spite of all the precautions in planting. Besides, no one can tell whether the body is not distempered,

distempered, which cannot be discovered by the eye, or whether the root may not have suffered some change since it was taken out of the nursery. It often happens, that the ends of the great shoots, which are obliged to be shortened, become cancerous ; and it is very common in all plantations, to find a great part of them fail, which can only proceed from such unknown causes and unforeseen accidents, since none are planted but what appear fair to the eye.

It must appear from all these considerations how hazardous it is to plant trees already formed, and I think every one will be ready to prevent these inconveniences, by following the advice which I shall give, which is, to bud the sorts he chuses himself; and the method of doing it is as follows :—You begin by setting out the plan for your plantation as I have explained it in the fourth chapter, and according to the quality of the soil, you fix upon the almond or plum stock. You mark out at the same time the distances of your trees, in proportion to the height of the walls, of which I have said all that is necessary in the fifth chapter. Suppose then that you determine upon the almond, you must plant in the month of November three almonds in the places you have marked, at eight or nine inches distant from each other, and at six inches from the wall. You bury them only four inches in the ground, with the points downwards, and close

the earth to them with your foot; they must be covered during the hard frosts with a little short litter, and uncovered as soon as the hard weather is over. In the following spring the kernel will sprout, and they must be managed as I directed in the preceding chapter. At the end of August, or the middle of September, when the sap is not in motion, you will bud them at two inches above the ground, in the manner before mentioned. The spring following the bud will shoot, and you must observe to pinch it at the fourth or fifth leaf, so as to leave it seven or eight inches long, the reason of which I shall soon explain; but before that is done, (*viz.* when the buds begin to push,) you must cut off the stock slanting, close to the bud, covering the wound with a little soft wax; or for want of that, with a little tempered clay.

If your soil requires the plum stock, you will plant at the same time of year above mentioned, three plum suckers, of a proper sort, at the same distances as the almonds. These you cut down in March to two inches above ground, turning the wound next the wall; the sap will rise soon after, and if it throws out more than one shoot, you will chuse the best, and break off all the rest. This will strengthen it, and in August or September you bud it, (provided it is strong enough; if not, you defer it till the next year,) and in the succeeding spring, that is when the hard frosts are over, you

you cut off the stocks close to the bud, as before mentioned, and loosen the bandage; the bud will soon push out, and you pinch it to the same length and in the same manner as I directed for the almonds.

In case you should not bud it the first year, you must observe in March to cut down the young shoot to the thickness of about half a crown, that you may have a new shoot to bud upon in August; for the bud always takes better upon the first year's wood than upon the old, though they bud indifferently upon both.

I have advised the planting three almonds or three plum suckers, which I do only that you may be sure of having one good one at least to bud upon; for many accidents might happen to them, though but one should remain. This is a necessary precaution, because either the mice and large birds, such as magpies and crows, which are very fond of almonds, always destroy some; or all the buds may not take: but as two-thirds are allowed for loss, you may be very easy as to the success. If the ground you plant them in is overrun with mice, it will be proper not to plant the almonds till March, after they have shot in the sand, as I observed in the last chapter.

At the same time as you pinch the young shoots, you must reduce the stocks to one only, if they have all grown, and pull up all the rest, for they will injure each other if they remain longer together; but in pulling them up,

you must take care not to disturb that which is left.

When the stock that remains has put out three or four good shoots, which will be produced by the pinching, you must be careful in laying them in, and dividing them, according to the directions given.

I have hitherto spoken only of those stocks that are to make dwarf trees; but when your walls require standards or half standards, it will cause you some anxiety; for you cannot bud these till the second or third year, and I know how disagreeable the suspense of waiting two or three years is, to those who wish to enjoy their fruit; but there is no avoiding it. In this case the stocks must be managed differently, and trained in such a manner, that they may be budded at the height of four, five, or six feet from the ground. To this end, as soon as the stocks, whether almonds or plums, have begun to throw out shoots, you must reduce them all to one, and that the strongest and best placed, which should be supported by a stake, to keep it quite upright. It will be understood by this, that it is not to be headed down the next year, as I directed for the dwarfs. You let it run up then as high as it will for two or three years, till you think the stem is large enough to bud upon, which should be a good inch in the place where it is budded: when it has attained this size, you bud it in the same manner, and observe all the

same directions, as I gave for the dwarfs, only with this difference, that you leave two of the three stocks you planted, supposing they all took well, and take out the middle one, to give the other two more room; for as they stand longer in the ground than the dwarfs, the roots will interfere with each other. It will therefore be sufficient if two of them are left; and some art must be used in taking up the second after they are budded, that the remaining one may not be damaged. In order to be more sure of the buds taking, you may put two buds in each stock four inches apart, opposite to each other, that if one fails, the other may succeed; and when you find them ready to shoot, you may cut down the stock to the best of the two, and the lowest should always be preferred.

I must now explain the care that is requisite, as well for the stocks that are to be budded, as for the buds themselves.

If you plant almonds, you should chuse the finest that are to be had, the whitest, and of the sweet kind, which should be of the same year's growth. You will also take care, when the shoot begins to shew itself above ground, (which is the critical time,) to preserve it in the best manner you can from destructive animals, particularly the mice, which scratch and break up the earth all round, to find the almond. You may destroy a good many of them with bell-glasses, placed in the ground

at the foot of the wall half filled with water, in which they will drown themselves as they run to and fro. For want of these glasses earthen pots may be used, or pieces of tile placed on each side the shoot, which remain till it is grown to a certain strength, and prevent their injuring it.

If you plant suckers of the plum, you must take the same year's shoot, of a proper strength, that is, about the size of your little finger, with good roots and the wood clear, and plant them about eight inches deep.

With regard to the buds, they should be taken from sound and vigorous trees, in full bearing, which are free from gum and canker, and of which you have seen the fruit. Besides, every one who is a lover of the fruit, should cut off the branch himself; for a gardener, who is entrusted to do it, might make many mistakes, for want of sufficient judgment, and there are very few who have any sense of their master's interest; so that they would cut them off by guess, to save some trouble, or a few steps. Nothing is easier in the fruit season, than to take a walk in the gardens of Montreuil, or some neighbouring ones, and to mark the trees whose fruit pleases you, by putting labels to them; you return again when it is time to bud your stocks, and observe, in chusing the branches, that they are of a middling strength, and furnished with good double buds; the largest are generally
rank,

rank, which must be avoided, as I have before observed, and the weak ones have not eyes proper for budding. If you are not within distance of performing this yourself, and that you are under an absolute necessity of leaving it to somebody else, take all the precaution your prudence will suggest to you, that the branches may be well chosen, and the sorts marked with certainty. To this end you might send some one with your gardener, for a proverbial reason, *viz.* that four eyes are better than two. Those who live at a distance in the provinces, and have nothing in their neighbourhood that would answer their wishes, must recommend it to the person whom they intrust with their orders, to range the branches they send properly in boxes, distinguished in bundles, and numbered, and to stick the ends of them in little cucumbers to preserve them fresh: With this precaution they may remain in such a situation for a month, without spoiling. Another circumstance of the same kind must be attended to, when you bud, which is, to set the branches in a vessel that has two inches of water in it, during the operation, that the sun and air may not dry them.

I say nothing particular of the operation itself, now known in all countries; but I must remark, that there is a nicety in doing it well, which is not observed by all those who pretend to it; so that you must procure as intelligent a workman as possible; these are to be found

about Paris ; but in the more distant countries, every one must get such an one as he can.

It remains that I speak of the suckers ; that is, of the sorts of plums proper for budding Peach trees. We have but three sorts that require a particular stock, the two Violets, Early and Late, and the Chevreuse. This last is found by repeated experience to take very well upon the St. Julien ; of which there are two sorts, the Common and the Joré ; the first may do, for want of the latter ; but this is much the most certain, and should always be preferred. All the other sorts of Peaches require the damasine, either the great or small, which are well known, though the former is the best. They are distinguished from each other thus ; the wood of the great damasine is of a grey colour, a little mealy, and the heart of the shoot whitish ; the little damasine is all over of a deep brown, and the heart of the shoot reddish. These sorts are sometimes raised from the stones, by which you are perfectly sure ; but in general, slips taken from the foot of an old tree that bears well, or suckers from some old stool that has been dug round, are esteemed equally good, provided they have good roots, and have no knots of old wood taken up with them. The shoots of the year should be chosen, if possible, though the two years wood is good. Those that have not any of their own, or in the neighbourhood, may be supplied at La Vallée,

Vallée, where they are generally sold from All Saints to March. This should be well understood, and is all the direction in my power to give.

It will no doubt be thought, that it requires no more care and trouble to lay out a wall of trees in the manner I have mentioned, than to plant those already budded. I grant this; but let any one reflect at the same time, how many and various the hazards are in planting in this last manner, and how mortifying it would be, to have trained up a tree for some years, and when it is just arrived at perfection, to find yourself deceived, that is, to find the fruit quite different from what you expected, either in flavour or fruitfulness. There are however too many who experience this mortification, which is a very cruel one, and whose example may teach others to avoid it. Now the method that I advise removes all inconveniences, prevents any that might be feared, and there will be nothing difficult in the practice. I add further, that if you have none but dwarfs, you will enjoy the fruit full as soon as by planting budded trees; for it is notorious, that this tree, by being transplanted, besides the particular hazards it runs, loses the first year in taking new root, which is not the case with that budded in the place where it is to remain; for the same year that the bud pushes, the tree begins to form its head, by means of the young shoots being pinched; and it is
much

much more easy to train it properly, because there is a moral certainty that the second shoots pushed out from the first will be of an equal size, by which it is plain the sap is equally divided : Besides, it is certain, that a stock that remains in the place where it was first raised, always succeeds better throughout all the stages of its life, than one that has been transplanted. The check this last meets with, and the change of soil, must necessarily have such an effect upon it, as not only to restore its growth, but alter its whole system. The fact is, that the stem being suddenly deprived of the nourishment that keeps it alive, falls into a kind of lethargy, and remains in that state, till the root has formed some new shoots, to give it a fresh supply of nourishment ; and though it does not die, yet it is certain that the external parts of it suffer such an alteration by the sun and air, that they never recover, so as to return to their original state. From whence it follows, that it never becomes so vigorous as before, and that, in the course of nature, it cannot last so long. I go still further, and affirm, that whoever will make trial of the different effects of each, may perceive, that the fruit produced by trees planted in the first method will afterwards lose something of its flavour. My opinion is founded upon the acknowledgment even of several nursery-men themselves, who have often assured me, that the fruit they sometimes gathered by chance from standard trees that

that were at first designed to be transplanted, was much superior in flavour to all they had in their gardens ; and I once tasted it myself, and could not help being of the same opinion. But I return to speak of the strength and duration of the trees ; and to confirm my opinion, I shall make some observations upon that head. It has been very often observed, that a stone remaining where it is first planted, throws out its stem and head much faster, and more regularly too, than one that is transplanted. It is well known, that an oak removed never makes a fine tree, and that it should be produced from the acorn. It is observed also, that cherries, and the wild cherry, which grow from stones, shoot away in a very different manner from those planted out in fields. I could reason from trees to plants in a garden, and remark an infinite number that thrive much better where they were first sowed, than when they are planted out ; (such for instances as lettuces, endive, onions, all kinds of artichokes, legumes, and all sorts of roots.) This is too evident to be disputed ; but it may be said, that the constitutions of all plants, no more than of all trees, are alike, which I grant ; but I say, that the general order of vegetation is always the same, and that nature is much better pleased with her free and uninterrupted productions, than when she is constrained, and put out of her course. I shall
give

give some proofs of the fact I have here advanced.

A particular acquaintance of mine, some years since, ordered a bad piece of wood, of ten or twelve acres, to be destroyed, where finding amongst the small wood, of which it was full, a great many plants of wild pears and apples newly shot from the kernels, he ordered them all to be preserved that were fit for grafting, and in the spring following grafted them, some by slit-grafting, and others by rind-grafting, according to their size. The grafts took perfectly well, and in three years he gathered most excellent fruit; but I should say at the same time, that in destroying the trees he had them grubbed up as deep as possible, which gave the whole ground a kind of trenching, that was of great advantage to the young grafted trees; so that in ten years they formed heads as large as a transplanted tree does in twenty-five; and this plantation, made by chance, became an orchard of great profit, which I have often looked at with great astonishment.

I have one more observation to make, relating to the method of making plantations in the neighbourhood of Paris, which produce the cyder. Skilful people come here annually, to take up all the wild stocks they can find in the nurseries of a proper size; these they carry home, and slit-graft them at the end of

two years, when they have taken good root. I have often met them in the nurseries, and upon talking with them, they all agreed in assuring me, that their fruits, grafted upon stocks as they grow in their proper places, succeeded much better in all respects, than ready grafted trees. I am quite of this opinion, without reasoning any farther upon the causes ; and I hope this little digression is sufficient to convince every one, that my opinion at least is not founded upon trifling conjectures, and to make them still more sensible of the utility of the method I advise.

F I N I S.

The first of these is the fact that the
 population of the country is increasing
 rapidly. This is due to a number of
 causes, including a high birth rate,
 a low death rate, and a large
 influx of immigrants. The second
 cause is the fact that the country
 is becoming more industrialized.
 This is leading to a shift in the
 population from rural to urban areas.
 The third cause is the fact that the
 country is becoming more developed.
 This is leading to a shift in the
 population from the interior to the
 coast. The fourth cause is the fact
 that the country is becoming more
 urbanized. This is leading to a
 shift in the population from rural
 to urban areas. The fifth cause is
 the fact that the country is becoming
 more industrialized. This is leading
 to a shift in the population from
 rural to urban areas.



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